

## **Historic, Archive Document**

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#24.8  
G47

VOL. XVIII. NO. 16.

AUG. 15, 1890.

PEACE ON EARTH & GOOD WILL TOWARD MEN



CLEANING  
IN

BEE CULTURE

DEVOTED  
TO  
THE COMMON

& HOME INTERESTS.

MEDINA, OHIO

BY  
A. B. ROOT

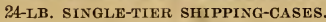
TERMS, ONE DOLLAR PER YEAR.

FRANKLIN G. DUNN, C.S.

SV Contd 2/10







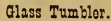
### PRICE LIST OF SHIPPING-CASES.

	Nailed, with glass, each.	1	In flat 10	100
48-lb. double-tier shipping-case.....	\$ 35	\$ 20	\$1.80	\$16.00
24-lb. single-tier " .....	25	16	1.40	12.00
12-lb. " " .....	15	10	.80	6.00

### PRICE LIST OF GLASS.

Size of glass.		Prices.			No. of sheets in box
		Per sheet	For 10 sheets	Per box of 50 ft.	
2 x 13½	**	24-lb. double-tier cases	8c	60c	64
3 x 18	**	24-lb. double-tier cases	3c	25c	133
		43-lb. double-tier cases	2c	20c	200
2 x 18	**	combined crate	1c	25c	400
2 x 9	*	12-lb. cases	1c	25c	400

### GLASS HONEY TUMBLERS AND PAILS.



Nos. 788 and 789.

Screw-top Pail.

Nos. 775 to 778.

Oaken Bucket Pail.

TABLE OF PRICES—NO CHARGE FOR PACKAGES.

*Please order by number and name, and give price.*

Number and Name.	Capacity.		Price.		Barrels.	
	100	100	100	100	No.	Pr.
No. 788, ½-lb. tumbler.....	10 oz.	3	25	2.25	250	85.00
No. 789, one-pound tumbler.....	16 oz.	3	30	2.75	250	50.00
Nos. 788 and 789, nested.....		6	50	4.50	250	8.70
No. 775, ½-lb. screw-top glass pail.....	10 oz.	5	40	3.50	250	7.30
No. 776, small pound screw-top pail.....	14 oz.	5	40	3.75	250	7.30
No. 777, large pound screw-top pail.....	17 oz.	6	52	4.50	150	6.60
No. 778, 1½-lb. screw-top glass pail.....	24 oz.	7	65	6.00	100	6.00
1 lb. Oak. Bucket pail.....	10 oz.	5	42	3.75	200	6.50
1 lb. Oak. Bucket pail.....	16 oz.	5	45	4.30	150	6.00

In lots of 5 bbls., any one or assorted kinds, 5% off.

GLASS JARS FOR EXTRACTED HONEY.

	Price, Each	Doz.	Gross
2 lb. square flint jars with corks.....	7	75	\$7 00
1 " " " " " " .....	6	60	5 50
1/2 " " " " " " .....	5	45	4 25
5 oz., or dime " " " " .....	4	35	3 25

One and 2 lb. in  $\frac{1}{2}$  gross boxes. Dime and  $\frac{1}{4}$  lb. in gross boxes. Shipped direct from Cincinnati, Ohio. If shipped from here with other goods add 25c per box for freight from Cincinnati here. Without corks 75c per gross less on 1 and 2 lb.; 50c less on others. In lots of 5 gross at a time, 5 per ct. discount.



1 box of two cans.....\$ 75	1 can, boxed singly      \$ .45
10 " " " ..... 7 00	10 " " " ..... 4 20
100 " " " ..... 65 00	100 " " " ..... 40 00

With a large 4-inch screw-cap as well as small one, 5c extra each can. These are convenient for digging out candied honey.

*We can ship these 60 and 12 lb. sq. cans from St. Louis, Mo., when desired, at same prices.*

We can furnish, when desired, a honey-gate to fit the screw caps to the foregoing cans as shown at the upper left hand corner of cut. This is a great convenience for retailing honey, as the stream can be stopped instantly. There is no danger of filling small honey-receptacles to overflowing.

Price 15c. each; \$1.25 for 10; \$10 per 100.

ONE - GALLON (12-LB.) SQUARE  
CANS, 10 IN A CASE.

We have made arrangements so that we can furnish 12-lb. sq. cans, same style as our regular 60-lb. cans, 10 in a box. These will be shipped direct from St. Louis or from here, at the following prices:

One box of ten 12-lb. cans.....	\$1.50
10 boxes at \$1.40 .....	14.00
100 boxes at \$1.30 .....	130.00
100 cans in a crate without boxes..	12.00



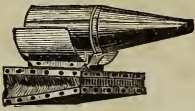
Post.	Each.	Price.			Weight of	
		40	50	100	50	100
50	Nest of 5 pails as shown.....	40	3 60	16.50	32.00	400
	Nest of 3 smaller pails.....	20	1.75	8.00	14.50	175
	Nest of 3 smaller pails, painted, and, lettered PURE HONEY.	30	2.75	13.00	25.00	190

For other honey packages and further particulars see pages 22 and 23 of our catalog.

**A. I. ROOT, Medina, Ohio.**



## \*BEST ON EARTH\*



ELEVEN YEARS  
WITHOUT A  
PARALLEL, AND  
THE STAND-  
ARD IN EVERY  
CIVILIZED  
COUNTRY.



**Bingham & Hetherington**  
**Patent Uncapping-Knife,**  
Standard Size.

**Bingham's Patent Smokers,**

Six Sizes and Prices.

Doctor Smoker,	3½ in.,	postpaid	...\$2.00
Conqueror	3 "	"	... 1.75
Large	2½ "	"	... 1.50
Extra (wide shield)	2 "	"	... 1.25
Plain (narrow)	2 "	"	... 1.00
Little Wonder,	1½ "	"	... .65
Uncapping Knife.....			... 1.15

Sent promptly on receipt of price. To  
sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count cor-  
rectly. Am ready for orders. If others feel as I do  
your trade will boom. Truly, F. A. SNELL.

Vermillion, S. Dak., Feb. 17, 1890.

SIRS:—I consider your smokers the best made for  
any purpose. I have had 15 years' experience with  
300 or 400 swarms of bees, and know whereof I speak.  
Very truly, R. A. MORGAN.

Sarahsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service  
since 1883. Yours truly, DANIEL BROTHERS.

Send for descriptive circular and testimonials to  
1tfdb BINGHAM & HETHERINGTON, Abromia, Mich.

☞ In responding to this advertisement mention GLEANINGS.

## HEADQUARTERS IN THE SOUTH.

FACTORY OF BEE-HIVES, ETC.

From now on I will sell my 4-frame nuclei, with  
Italian queen, at \$3.75. In lots of 5, at \$3.50 each.  
Untested queens, at \$9.00 per dozen in June; \$8.00  
per dozen in July. Satisfaction and safe arrival  
guaranteed. Twelfth annual catalogue.

9tfdb P. L. VIALLO, Bayou Goula, La.  
Please mention this paper.

# BEES

SEND for a free sample copy of the  
BEE JOURNAL—16-page Weekly  
at \$1 a year—the oldest, largest, and  
cheapest Weekly bee-paper. Address  
16tfdb BEE JOURNAL, Chicago, Ill.  
Please mention GLEANINGS. 1tfdb

## GOLDEN ITALIANS.

Warranted to produce 3-banded workers, and safe  
arrival guaranteed. I can fill all orders for less  
than one dozen by return mail if desired, price 75c  
each. Look at my ad. in June Nos. of GLEANINGS.  
Address JAMES WOOD, North Prescott, Mass. 11tfdb

☞ In responding to this advertisement mention GLEANINGS.

## 100 PURE ITALIAN QUEENS

Now Ready, and for the next 15 days will be sold  
as follows: Tested queens, \$1 each; untested, 70c  
each; 3 for \$1.75; 5 or more, 50c each. All queens  
bred from select imported and home bred queens.  
Safe arrival guaranteed.

D. G. EDMISTON,  
Adrian, Lenawee Co., Mich.

☞ In responding to this advertisement mention GLEANINGS.

**A REVOLUTION** In Strawberry growing. The  
Enhance is the most reliable,  
most productive, largest shipping and all-pur-  
pose berry ever before offered. Send for description  
and price. HENRY YOUNG, Ada, Ohio. 15-16db

☞ In responding to this advertisement mention GLEANINGS.

## DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman &  
Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas.  
Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury,  
Nebraska; G. L. Tinker, New Philadelphia, Ohio;  
E. S. Armstrong, Jerseyville, Ill.; E. Kretschmer,  
Red Oak, Iowa; P. L. Viallon, Bayou Goula, La.,  
Jos. Nysewander, Des Moines, Ia.; C. H. Green,  
Waukesha, Wis.; G. B. Lewis & Co., Watertown,  
Wisconsin; J. Mattoon, Atwater, Ohio, Oliver  
Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg,  
Illinois; Geo. E. Hilton, Fremont, Mich.; J. M.  
Clark & Co., 1517 Blake St., Denver, Colo.; Goodell  
& Woodworth Mfg. Co., Rock Falls, Ill.; E. L. Gould  
& Co., Brantford, Ont., Can.; R. H. Schmidt &  
Co., New London, Wis.; J. Stauffer & Sons, Nappa-  
nee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.;  
E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen,  
Davenport, Ia.; C. Theilman, Theilmanton, Minn.;  
G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler,  
Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis.,  
Walter S. Pouder, Indianapolis, Ind., and numer-  
ous other dealers.

## LANGSTROTH on the HONEY-BEE,

REVISED.

The Book for Beginners, the Most Complete Text-  
Book on the Subject in the English Language.

Bee-veils of Imported Material, Smo-  
kers, Sections, Etc.

Circular with advice to beginners, samples of  
foundation, etc., free. Send your address on a  
postal to  
4tfdb

CHAS. DADANT & SON,  
HAMILTON, HANCOCK CO., ILLINOIS.

☞ In responding to this advertisement mention GLEANINGS.

## "HANDLING BEES." Price 8 Cts.

A chapter from "The Hive and Honey Bee, Re-  
vised," treating of taming and handling bees; just  
the thing for beginners. Circular, with advice to  
beginners, samples of foundation, etc., free.  
5tfdb

CHAS. DADANT & SON,  
Hamilton, Hancock Co., Illinois.

☞ In responding to this advertisement mention GLEANINGS.

## FOLDING PAPER BOXES.

CRAWFORD'S SECTION CARTONS  
ARE THE BEST.

Send for free sample and price list, and find out  
the reason. A certain fact has come to our knowl-  
edge that is worth dollars to you. Send for it.

A. O. CRAWFORD, S. Weymouth, Mass.

12tfdb Please mention this paper.

## QUEENS and SUPPLIES.

Untested Italian queens, each.....\$1.00  
Tested..... 2.00

Send for price list of bees and supplies.

Address F. W. LAMM,  
(Box 106.) Somerville, Butler Co., Ohio.  
Please mention this paper. 24-23db

**FOR SALE.** My supply business, shop building,  
and tools, with 70 colonies of bees.  
Want to sell at once. Low price and easy terms.  
Must be disposed of before Dec. 1st, 1890. Address  
14-15-16d JAS. A. NELSON, Muncie, Wy. Co., Kan.

☞ In responding to this advertisement mention GLEANINGS.

## Bee-Keepers' Supplies.

WHY SEND LONG DISTANCES?

SEND NAME ON POSTAL CARD FOR MY  
NEW PRICE LIST TO

C. P. BISH, Grove City, Mercer Co., Pennsylv'a.  
Formerly of St. Joe Sta., Butler Co., Pa.

ESTABLISHED IN 1884.

Please mention this paper. 9tfdb

## Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 6 lines, and you must say you want your ad in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

**WANTED.**—To exchange all kinds of wall paper, for honey. 1tfdb J. S. SCOVEN, Kokomo, Ind.

**WANTED.**—To exchange 1 lb. of thin fdn. for 2 lbs. of wax. 7tfdb C. W. DAYTON, Bradford, Ia.

**WANTED.**—To correspond with parties having honey, potatoes, peaches, apples, etc., for sale. Prompt attention given to all letters.

EARLE CLICKENGER, Commission Merchant,  
15-16-17d Columbus, O.

**WANTED.**—Second-hand section machine. Give price, and time in use. C. P. BISH,  
15-16d Grove City, Mercer Co., Pa.

**WANTED.**—I want a situation in a Cuban apiary. 12 years' experience. Reference, C. F. Muth & Son, (Cincinnati, Ohio. Address A. CARDER,  
15-16d Hebron, Boone Co., Ky.

**WANTED.**—To exchange a Shipman oil engine, one horse power, in good order, for 1000 pounds of white extracted honey, or offers. 15tfdb F. A. SALISBURY, Syracuse, N. Y.

**WANTED.**—I will exchange sewing machines, new, and fruit-trees, for honey. Address 15-24 E. PETERMAN, Waldo, Wis.

**WANTED.**—To rent for cash or sell farm of 60 acres, five miles from this city. About 25 acres in fruit. 13 acres of strawberries, 3 acres of raspberries, 3 acres of blackberries, 1 acre of grapes, 5 acres of apple, peach, and plum trees. Balance of land No. 1 for marketing purposes. Buildings and other improvements in fine shape. Reason for selling, too many irons in the fire.

EARLE CLICKENGER, Com. Merchant,  
15-16d Columbus, O.

**WANTED.**—A situation in an apiary in one of the following States: California, Texas, Colorado, Illinois, or North Missouri; or I would buy a small apiary. I can give good reference. W. T. ZINK,  
Nichols, Greene Co., Mo.

**WANTED.**—To exchange red-clover Italian bees in portico L. hives, for set of tinner's tools, good horse and buggy, or anything useful. A big bargain given, especially for tinner's tools. 16d J. A. BUCKLEW, Warsaw, Coshocton Co., Ohio.

**WANTED.**—To exchange self-inking printing-press, 3x5, for a good violin. C. A. CAMP,  
16d Painesville, Lake Co., O.

**WANTED.**—To exchange 40 colonies of brown and hybrid bees for winter apples. Bees to be shipped in shipping-cases, 8 L. frames per colony. Write and make me offers. H. O. MCELHANY,  
16d Cedar Rapids, Iowa.

**WANTED.**—To exchange beautiful young Italian queens from imported stock, for honey or other offers. MRS. OLIVER COLE,  
16tfdb Sherburne, Chenango Co., N. Y.  
Chenango Valley Apiary.

**WANTED.**—One hundred empty brood-combs in Simplicity frames. THOS. GEDYE,  
16d Kangley, LaSalle Co., Ill.

**WANTED.**—To exchange Italian bees in portico L. hives for hives in flat or one-piece sections. A. W. GARDNER, Centerville, St. Joseph Co., Mich.  
16-17-18d

**WANTED.**—To exchange extracted white-clover honey for a 4 or 6 inch comb foundation-mill. 161 AUGUST BENNER, Cottageville, S. Chls. Co., Mo.

**WANTED.**—To exchange babbitt lathe foot-power with circular saw, and scroll-saw attachments, for extracted honey, or wax and queens. 16d C. H. LUTTGENS, Hammonton, Atlantic Co., N. J.

**WANTED.**—To exchange Italian bees and queens for foundation or supplies or other offers. W. D. BLATCHLEY, Binghamton, Broome Co., N. Y.  
16 17d

## Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

Black queens, 20c; hybrids, 30c.

J. A. BUCKLEW, Warsaw, Coshocton Co., Ohio.

I will sell a few hybrids at 20 cts.; and mismated ones at 30 cts. C. G. FENN,  
Washington, Ct.

About 10 choice hybrid queens for sale, 30c each or 4 for \$1.00. GEO. DENMAN,  
Pittsford, Hulsdale Co., Mich

I have 30 nice hybrid and 35 young black queens for sale. Send me 50 cents and get one of them. 16-17-18d A. D. ELLINGWOOD, Berlin Falls, N. H.

We are now requeening our apiary, and will have about 25 mismated Italian queens which we will sell at 25 cts. each, or 5 for \$1.00. LEININGER BROS., Douglas, Putnam Co., Ohio.

15 black and hybrid queens for sale at 25c each, 5 for \$1.00. WM. T. REHRIG, Beltzville, Carbon Co., Pa.

A few hybrid queens at 20c each. J. A. ROE,  
Union City, Randolph Co., Ind.

40 selected black and hybrid queens at 20 and 25 cts. each. O. F. SUNDERLAND,  
Box 411, St. Albans, Franklin Co., Vt.

12 or 14 mismated queens for sale for 50c each. T. L. THOMPSON, Blairsville, Indiana Co., Pa.

Hybrid queens for sale; 15 at 40 cents each. JOSEPH COSTELLO, Palmetto, Manatee Co., Fla.

## THOSE 75 Ct. ITALIAN QUEENS FROM THE OLD MAID'S APIARY

Are giving perfect satisfaction. Orders promptly filled. Satisfaction guaranteed.

Address E. D. ANDREWS, P. M.,  
North New Salem, Mass.  
Please mention this paper.

## Carniolan and Italian Queens, 50 Cts. Each.

I am requeening every thing to imported Carniolan stock, and offer the queens out of two apiaries as above. Address

J. A. ROE, Union City, Ind.

In responding to this advertisement mention GLEANINGS.

## ITALIAN QUEENS, 50 CTS.

I will send nice young laying untested queens by return mail at the above price, and guarantee safe arrival. Send in your orders at once.

Address F. H. PETTS, Warsaw, Mo.  
In responding to this advertisement mention GLEANINGS.

**WILL SELL APIARY OF 33 COLONIES IN** fine condition (good location). Also 40 acres of land one mile from lively town. Address all inquiries to BOX 98, White Cloud, Mich. 16-17-18d

**CHEAP!** Twenty tested Italian queens, only 75 cts. each. Pay after queen is received, if preferred. S. F. REED,  
N. Dorchester, N. H.



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## CONVENTION NOTICES.

The Southwestern Wisconsin Bee-keepers' Affiliated Association will meet Oct. 8, 1890, in Platteville, Wis., at the residence of E. France, to commence punctually at 10 A.M., sharp. There will be a large turnout of prominent bee-keepers of the State. A question-box, free to all, in which any subject you wish discussed can be presented and answered. Let every one be on hand and bring in his report for 1890, starting at spring count, or May 1. There will be blanks sent to each member for this purpose, in due time, by the secretary.

N. B.—The date of the above convention has been changed from the 1st to the 8th.

Boscobel, Wis.

BENJ. E. RICE, Sec'y.

## HONEY COLUMN.

### CITY MARKETS.

CHICAGO.—*Honey*.—Selling well for this season of year, and receipts do not keep up with sales this week. 14@15 has been obtained for all fine white comb in 1-lb. sections. Extracted, California, 6½@7 cents; and domestic, 7 cents for prime. The quality of honey being offered is fair—not all of it as good as usual. *Beeswax*, 25@26.

Aug. 7.

R. A. BURNETT,  
Chicago, Ill.

ST. LOUIS.—*Honey*.—We find ready sale for extracted and strained honey in barrels, at 6c. Comb honey steady, at 12½@13½. *Beeswax*, 26½.

Aug. 8.

D. G. TUTT GROCER CO.,  
St. Louis, Mo.

ALBANY.—*Honey*.—We have received one consignment of new honey; the quality is only fair. We have sold a part of it at 15c. From advices received, the indications are that the crop will be short in New York State.

Aug. 8.

CHAS. McMULLOCH & Co.,  
339 Broadway, Albany, N. Y.

KANSAS CITY.—*Honey*.—The receipts of comb and extracted have been very light. Demand for comb good, at 14@15 for 1-lb. white; dark 1-lb. is 12@13. Very little demand for extracted yet. *Beeswax*, 22@25.

Aug. 9.

CLEMONS, MASON & Co.,  
Cor. Fourth and Walnut Sts., Kansas City, Mo.

DETROIT.—*Honey*.—There is a little new honey in the market, and it is held at 15 cents. Extracted, 7@8. *Beeswax*, in fair demand at 26@27.

Aug. 8.

M. H. HUNT, Bell Branch, Mich.

NEW YORK.—*Honey*.—Southern strained, 60@65c per gallon; Southern extracted, 65@70c per gal.; orange bloom, 7@7½c per lb. California, 6@7c. No new comb honey has arrived as yet.—*Beeswax*, dull and declining, 27c for a choice article.

Aug. 11.

HILDRETH BROS. & SEGELKEN,  
28 & 30 West Broadway, N. Y.

WANTED.—Honey to buy. Please quote prices.

F. S. McCLELLAND & BRO., New Brighton, Pa.

WANTED.—A quantity of light extracted honey in bulk packages; will pay 8c per lb. cash, delivered here.

C. W. DAYTON, Bradford, Iowa.

FOR SALE.—500 lbs. of good comb honey at 15 cts. per lb. cash, on board cars at Bay City, Wis., or Redwing, Minn.

FRANK DURAND,

Esdaile, Pierce Co., Wisconsin.

## ITALIAN QUEENS CHEAP.

We will sell Italian queens at the following low prices: Tested, 85 cts.; one-half doz., \$4.75; untested, 65 cts. each. Satisfaction guaranteed.

LEININGER BROS., Douglas, Putnam Co., Ohio.

In responding to this advertisement mention GLEANINGS.

## CARNIOLAN QUEENS.

\* \* \* 85 Cts. Each, or 4 for \$3.00.  
F. H. MCFARLAND, St. Albans, Vermont.

## SPECIAL CROPS.

A magazine for advanced agriculturists; 25 cts. per year; sample 7 cts. Also, Black Minorcas, B. Leghorns, and S. Wyandottes; eggs of either, per setting, 75 cts.; 26 at one time, \$1.00. 4-50d

C. M. GOODSPEED, Skaneateles, N. Y.

In responding to this advertisement mention GLEANINGS.

## KIND WORDS FROM OUR CUSTOMERS.

### BEEES ARRIVED SAFELY.

The bees arrived all safe in due time. I am well satisfied with them. They are doing nicely, and seem to like their new home. GEO. FISK.

Marion, Mich., July 25, 1890.

### QUEEN VERY NICE.

My bees came all right. I am well pleased with the change in my order. The queen is very nice. OTTAWA, MINN., July 14. MRS. S. COFFIN.

### BEEES IN GOOD SHAPE.

I received the queen and bees in due time. She is laying. I am pleased with her. Other goods arrived safely; all satisfactory. E. C. MORTON.

Fairview, O., July 15.

### SENDING STRAWBERRY-PLANTS IN AUGUST.

The strawberry-plants ordered just a week ago to-day are now growing nicely in my garden. They came in fine condition, and scarcely wilted a bit. Thanks for the four extra ones. I take several papers, but I like GLEANINGS best of all.

Newark, O., Aug. 12.

G. H. TAYLOR.

LAYING BEFORE SHE HAD BEEN OUT OF THE CAGE 10 MINUTES.

The queen you sent me July 1 was received at 3:30 p. m. of the third, and I introduced her the same evening. I was very busy, so did not look after her till to-day, when I found her still in the cage. I pulled the cage off and watched to see how they would act. The queen started down toward the bottom of the frame around and half way up the other side, all the time poking her head into the cells, when she stopped and began depositing eggs in the cells, and that before she had been out of the cage ten minutes.

GEO. C. JONES.

Herman, Minn., July 7, 1890.

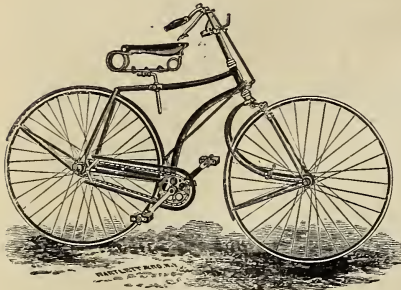
### A KIND WORD FOR OUR INDUSTRIAL BOOKS, ETC.

Since your busy season is over, perhaps you would like to know how your abecedarian in this section is getting along. Every book that I have received from you has proved quite a blessing to me, for which I feel thankful to you and the great Giver of all good. We have had plenty of honey, through the instruction of your A B C book, and the carp are ready twice a day for their meal, and I intend to build another pond this fall. So much for the A B C of Carp Culture; and the A B C of Potato Culture helped me to raise 200 bushels last year. Potatoes were a failure in this section this year. Now, what I want is for you to set me right on the road of growing strawberries successfully, as I want to keep up close to the foot of the class among your scholars. Keep on with your foot-notes and sermons, and by all means with your special department for raising crops.

G. H. KNISLEY.

Tatesville, Pa., Aug. 8.

# VICTOR \* BICYCLES



Will carry you up hill easier and down hill faster than any others you ever mounted.

ALL INTERCHANGEABLE.

ALL HIGH GRADE.

ALL RIGHT.

Send for Catalogue.

**OVERMAN WHEEL CO., Makers, Chicopee Falls, Mass.**

☞ In responding to this advertisement mention GLEANINGS.

**"BANNER"** Years ago, when I began working with my brother, the editor of the *Review*, his apiary was called the "Banner Apiary." A large share of this apiary is still kept at the old place, where I manage it on shares. It is stocked with a fine strain of Italians, and I have been saving the best cells from the best colonies, when they swarmed, and having the queens hatched and fertilized in nuclei. These queens I offer at 75 cts. each, or three for \$2.00. No black bees near here. Can fill orders promptly, and will guarantee safe arrival. Make money orders payable at Flint, Mich. Address

**ELMER HUTCHINSON,**

**Rogersville, Genesee Co., Mich.**

☞ In responding to this advertisement mention GLEANINGS.

**EVERBEARING STRAWBERRY.** Descriptive price list free.  
**SETH WINQUIST, Russellville, Oregon.**

## Carniolan Queens.

Untested, reared from an imported mother, \$1.00. Nearly all will prove tested.

**F. SCOTT, Cloud, Ohio.**

## NOW FOR A BARGAIN.

I will sell cheap my entire stock of good Italian bees, one honey-extractor, and all my bee-fixtures; and if sold soon will sell the honey also, as I wish to retire from the business. **MRS. REBECCA KINNEY.**

16-19db **Bloomsburg, Col. Co., Pa.**

☞ In responding to this advertisement mention GLEANINGS.

**NOW** is the time to set **STRAWBERRIES** for next year's fruiting. Write for fall price list of plants and Secrets of Success in Growing Small Fruits; sent free, on application to **L. A. WOOLL,** 16tdfb **Elsie, Mich.**

## Alley's Business Queens

**ONE DOLLAR EACH.**

**HENRY ALLEY, - - WENHAM, MASS.**

Please mention GLEANINGS.

15tdfb

## CARNIOLAN \* QUEENS,

Circulars giving special prices for Carniolan queens, bred the remainder of the season from pure and gentle mothers, the workers of which can not be surpassed as honey-gatherers. Send for circular.

**JOHN ANDREWS,**

15tdfb **Pattens Mills, Wash. Co., N. Y.**

☞ In responding to this advertisement mention GLEANINGS.

## CARNIOLAN BEES.

For the highest type of these bees see our advertisement in GLEANINGS, July 1 No. 15tdfb

**J. B. MASON & SON, Mechanic Falls, Me.**

In writing to advertisers please mention this paper.

**500 Italian Queens** For Sale. Tested. \$1.10, three for \$3.00. Untested, 70 cts. each; three for \$2.00. Also bee-keepers' supplies, etc. 16-page circular free. 15tdfb

**JNO. NEBEL & SON, High Hill, Mo.**

☞ In responding to this advertisement mention GLEANINGS.

**FOR SALE.**—My queen rearing apiary and business, dwelling and out-buildings, and about 8 acres, for \$1700.00. Fruit and berries; fine location; pleasant village; a nice home at a bargain. 15tdfb  
Also privilege of an out-apiary. Write.  
**CHRISTIAN WECKESSER, Marshallville, Wayne Co., Ohio.**

☞ In responding to this advertisement mention GLEANINGS.

## FOR SALE.

**A WELL-ESTABLISHED SUPPLY BUSINESS.** Will invoice the stock with a reasonable discount, and no charge for the business. If not sold before the 4th of Sept., will auction off at that time. Have an Armstrong T-tin machine which will make 500 complete T-tins in an hour. A fine working Given foundation press; Horse Power and Rodgers saw; Hives, made and flat; Sections, Extractors, etc., and 50 colonies of Italians.

Terms cash or satisfactory security. Will quote prices or receive bids by mail, on the whole, or any article.

**GEO. M. TERRELL,**  
**Jerseyville, Ill.**

☞ In responding to this advertisement mention GLEANINGS.

**UNTESTED** Italian Queens, 75c each, three for \$2.00. Tested \$1.00. **H. G. FRAME,** 16tdfb **North Manchester, Ind.**

**IF YOU ARE IN WANT OF**

**BEES or BEE-KEEPERS' SUPPLIES,**

Send for our New Catalogue.

9tdfb

**OLIVER HOOVER & CO.,**

Mention this paper.

**Snydertown, Pa.**

## SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap.

**NOVELTY CO.,**

6tdfb

**Rock Falls, Illinois.**

Please mention this paper





Vol. XVIII.

AUGUST 15, 1890.

No. 16.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

*Established in 1873.*

PUBLISHED SEMI-MONTHLY BY

*A. I. ROOT, MEDINA, OHIO.*

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U.S. and Canadas. To all other countries of the Universal Postal Union, 18 cts. per year extra. To all countries NOT of the U.P.U., 42 cts. per year extra.

#### SHIPPING AND SELLING HONEY.

SOMETHING FURTHER ON THE SUBJECT, FROM OUR COMMISSION MEN.

Since our last issue we have received the following in reply to the series of questions propounded on page 551, from E. J. Walker, of Philadelphia:

1. 24 sections, about 20 lbs.
2.  $4\frac{1}{4} \times 4\frac{1}{4}$ .
3. We prefer that sections shall hold a little less than a pound.
4. Our customers sell by the section.
5. None, if put up in nice shape (paper boxes).
6. Either one sells.
7. 60-lb. cans, two in a case.
8. Any time after June 1.
9. Go over it all and put it in shape.
10. We never buy, unless very low.

#### REMARKS.

We think this a good year to get back what was lost last year in low prices; and the shipper who gets his goods on the market early is the man to get all the advantage; for if the party does not need the money on his stock, and there were a chance for an advance in price, the seller or commission man is best calculated to know that, and can be more independent, and hold it for better prices; and if it is a large crop he can have it to sell when buyers come along.

You ask whether, if the shipper sends his crop on commission, he can get more for it than if he sells outright. Well, that depends very much on circumstances, and what he can get for it. If he can sell at the top price, no doubt that is best; but the demand for comb honey varies so much sometimes that we do not sell much before the new year; and then, again, much is sold after that time; and the

lower the price, the more of it is consumed; and as for extracted, it may sell all the time for manufacturing cakes, etc. Last year, if we had held our stock a little longer we might have got more for it; but then, two weeks later there was *no* demand. We are this year in much better shape to get prices, as we are known now as the depot for honey, and the only ones handling honey in a large way.

If the bee-keepers would not ship to every man who is merely in the commission business, they would get more for their goods, as most commission men do not know how to take care of honey; and if it should come to them in a leaky condition they sell at any price to get it out of the way, without going over it as we do, taking out the broken and selling it at a price for broken, and getting a regular price for the man who sends it. In that way the market is not broken in prices, and parties could not get hold of it late at such low prices, to retail it so low that other buyers will not buy it, as they can not pay regular prices and compete. So our advice would be to all who have honey, to consign it to one party in a city, and make that headquarters for honey there; we could have a wholesale and retail price for honey, which would make a fair average for the shipper. We must have the small buyer as well as the large one, to use up the odds and ends and small lots.

Our advice in shipping honey is to send 24 sections to the case, 20 to 22 pounds to the case, and pack about 100 to 150 pounds to the case or crate; in other words, pack 6 to 8 boxes in a lot, as the cases come cleaner, and are not so liable to break down in handling. Freight is the best way to send it; no matter how the extracted is sent. Cans, 2 in a case, are preferable.

E. J. WALKER.

Philadelphia, Pa., Aug. 1.

Since the receipt of the above, the follow-

ing has come to hand from Hildreth Bros. & Segelken, of New York, who reply to the questions as follows:

1. Single-tier cases, holding from 24 to 30 1-lb. sections, and 12 or 15 2-lb. sections.

2.  $4\frac{1}{2} \times 4\frac{1}{2}$ .

3. Our trade demands light-weight sections in every style, whether in paper boxes, glassed or un-glassed.

4. We sell by actual weight; but the retailer generally sells by the piece.

5. Dark honey, off grades, sections mixed with buckwheat honey, find rather slow sale, and will not bring more than buckwheat, and often not as much. The same may be said of unfilled sections. A straight buckwheat in the comb finds ready sale in our market.

6. We would say, extract all dark and mixed honey, excepting buckwheat.

7. We prefer barrels and half-barrels for all kinds of extracted honey. They are the cheapest package, and we can sell them just as readily as smaller packages. Where barrels or half-barrels can not be obtained to advantage, we would recommend kegs holding about 150 lbs. or more.

8. Comb honey should be shipped to our market during September and October. Experience teaches us that the first season, the early season, is the best, regardless of short or large crop. Early in the season every one is in the market, and ready to buy at the prices established; while, later on, the stock accumulates, and buyers shop around more and hesitate in buying. In all our experience we have never seen the prices advance during November and December; on the contrary, they generally decline.

9. We sell the broken-down honey to the best advantage, generally to peddlers and cheap stores, and as quick as possible. In many cases, when the combs are not much damaged, we repack it. We make more or less claims every season against the transportation companies, but as the shipper's receipts are generally signed "Owner's risk," the company will not entertain the claim. We should like to say, always ship honey by freight, and never by express. It comes by freight in just as fine and often much better shape, and the charges are but half.

10. Most decidedly the producer receives more when consigned than when sold outright. If we buy, we take all the chances of a decline in the market, consequently we want to buy as low as possible, as we expect to make a larger profit on a purchase than on a consignment. If consigned, it is to our interest to get the highest possible prices; the higher the prices, the larger our commission.

HILDRETH BROS. & SEGELKEN.

New York, N. Y., Aug. 6.

### THE SOLAR WAX-EXTRACTOR.

DR. MILLER GIVES SOME IMPROVED DIRECTIONS FOR USING IT.

I HAVE made excellent work extracting wax by tearing open one corner of an old dripping-pan, putting it in the oven of the cook-stove on a slant, and letting the open corner project out, with a vessel under to catch the dripping wax. The same pan arranged in a box with a window-sash over it makes a solar extractor, although rather clumsy,

and not always very close. But I found, as time went on, that a good deal of wax was wasted because not always promptly melted. When such things are left for some future time, that future time doesn't always come. Last spring I thought I would find out whether the Green extractor was as good as represented, so I ordered one. I have found it all my fancy painted it. If it were of no other advantage, the one simple fact that it does its work so nicely that you are tempted all the time to hunt up more bits of wax to throw in is sufficient to make it a paying investment. But why don't you send instructions with it, friend Root? True, it is so simple that any one can readily learn how to work it, but he would learn more easily if some things were told him. For instance, the matter of cleaning out the debris after the wax has all drained out. I found that the hardest thing about the whole business. I commenced on a lot of stuff scraped from the top-bars of brood-frames, largely composed of bee-glue. Each morning, before filling up afresh, I scraped out the shallow pan with perforated bottom. It had a layer of bee-glue about half an inch thick, and you can imagine what hard work it was to dig it out with a knife. Then I put it in cold water to make it brittle enough to break by pounding on it, and nearly spoiled the pan. A slip of printed directions would have been worth to me many times its cost.

For the benefit of some who may hereafter get these extractors, let me give a few suggestions. Set the extractor where it will get the sun throughout the day as much as possible. If you want it to have the least care possible, set it facing south, with the reflector standing perpendicular, and let it thus remain all day long. If you want to get more work out of it, change its position two or three times in the course of the day, placing it each time so it will face the sun an hour or two after you have placed it. By moving the cover containing the reflector up and down you will see the bright spot made on your pan of scraps by the reflected rays of the sun. Set the cover open enough so that this bright spot shall be at the middle of your scrap-pan at the west end. As the sun moves it will work to the east end.

To make the cover stand at any desired angle, take something like a piece of lath with holes bored half an inch or more apart throughout one end. Drive a nail in one end of the cover near the front edge, and another directly under it in the box, then slip your lath on these nails. Don't attempt to clean out your scrap-pan when it is cold. Wait till the sun warms it up melting hot, then take out the pan, and a thin bit of board or shingle will scrape it out easily. During the middle of the day, or later, you will find the wax in the lower pan in a liquid state, or at least part of it. Have standing by the extractor a milk-pan or other vessel with sloping sides, into which you can pour the part that is liquid. Or you may let the lower pan remain without emptying till it is nearly full enough to interfere with the scrape-pan. Then set it in the oven of the cook-stove, and pour out when melted. When the glass becomes daubed with wax, rub it off with dry newspaper when hot.

There, Bro. Root, amendments and additions are in order in a foot-note.

#### PREVENTION OF BURR-COMBS.

I haven't made the experiments I desired with different top-bars, partly because at two different



establishments I couldn't get my orders filled. I have, however, learned a little. Top-bars  $\frac{1}{4}$  inch thick, accurately spaced  $\frac{1}{8}$  apart, do not prevent burr combs. Top-bars reinforced with separator stuff making them  $\frac{1}{2}$  deep are a great improvement but not perfection. To my surprise, even after I have scraped top-bars off clean, I do not find slat honey-boards work as well as in former years. That makes me more than ever anxious to learn how to get along without them.

Marengo, Ill., July 21.

C. C. MILLER.

Why, friend M., we do send out directions for using the solar wax-extractor—that is, we intend to do so; but I presume during the rush of business last season, somehow or other the sheet was left out. The same directions, or essentially the same, are given in "Wax," under "Solar Wax-extractor," in the A B C which you have. But you have added some items which we are glad to have. Yes, sir; when bee-keepers know more about the solar extractor they will use it more than they do. Ours is in use in the apiary constantly, when the sun shines, and we should hardly know how to get along without it now. Instead of having lumps of wax stuck about here and there, and more or less litter in the honey-house, we have instead several nice cakes of yellow wax. We do not bother to have it remelted in the oven. If your pan has sloping sides (and I presume it has) the cake ought to lift out after it has hardened. I am glad to get your testimony in regard to honey-boards and thick top-bars. I have not heard any thing positively against them, except that a few having never tried them won't use them because "they are too much wood."

E. R. R.

### BEES AND CEREALS, AGAIN.

PROF. KOONS REVIEWS THE QUESTION; ANOTHER OF AGASSIZ'S BLUNDERS.

My object in asking Prof. Cook a question through GLEANINGS, see page 449, was to get confirmation on the point of the usefulness of bees on wheat, etc. I ran across the statements of M. Jobard, a French writer, in his "The First Hive," where he makes such positive statements concerning the utility of bees on the cereals; and they were so contrary to my previous understanding of the subject that it fairly stunned me. I jumped up, shook myself, rubbed my eyes, and gave myself a pinch just to reassure me that I had not been asleep. Rip Van Winkle like, all these years, and allowed the world to get so far ahead of me in the natural history of common things on land, while I, with others, during summer vacations and spare moments, have been poking our noses, or, rather, machinery, several miles down into the old Atlantic, to the bottom of the Gulf Stream, to learn what new and hidden treasures ocean depths contain. I think, by the way, that some time I must tell the readers of GLEANINGS something of our experiences and finds, out there, but not this time.

Immediately upon reading Monsieur Jobard's opinions concerning bees and cereals, I said, "I shall ask A. I. Root, or through him Prof. Cook, just for reassurance; yet I know that I am right, for I was reared among the Ohio wheat-fields, and

have observed nature somewhat closely all these years, and have never yet observed a bee at work upon wheat, rye, oat, or grass."

The statements of M. Jobard run like this: "There are some districts in Saxony where the farmers raise no other crops than wheat; and a wheat of such superior quality as to be always sold at a high price as seed wheat. In these districts all farmers, without exception, have bee-houses; but these bee-houses, instead of being fixed, are mounted on wheels. Some days before the wheat blossoms, each farmer hitches his team to his movable bee-house, and conducts it during the night into the middle of his wheat-field." . . . "I have a bee-house in the middle of a field, and it is always the field surrounding my bee-house which furnishes my seed-wheat."

But here, most likely, as is so often the case, the overzeal for a theory, or the want of a little research, led the writer to make these statements and others like them; and all the more pity, because some of his errors have been finding their way into some of the leading publications of New England, and my first step was to be absolutely sure of my ground, and then expose the errors.

Like this Frenchman, the great Louis Agassiz once wrote a very learned (!) essay upon "The Mode of Motion of Certain Sea-Urchins," when if he had gone to the water's edge half a mile from his study-window, by a little judicious research he could soon have proved that all his theorizing was entirely erroneous. Zeal for a theory sometimes leads very great men astray.

Some flowers produce only stamens, or the male organs, while others, sometimes on the same plant in certain species, and in other species on entirely distinct plants, produce pistils, or the female parts of the flower; and still other species produce both stamens and pistils in the same flower. Those possessing only pistils must, of course, have pollen brought from the stamens or they will not produce fruit; and, again, some of those possessing both stamens and pistils can not be fertilized by the pollen of the same flower in which it grew; or if fertilization does take place it is very imperfect, hence must have pollen brought from another flower to insure the perfect growth of the fruit; hence the need of the aid of insects or the wind to insure the productiveness of some of our plants. Ordinary red clover is a good illustration of a plant needing the aid of insects, and in this particular case the bumble-bee is the insect that performs the work of cross-fertilization.

Again, there are other plants which reproduce by what Gray calls close or self fertilization; that is, the stamens of any particular flower fertilize the pistil of that flower; and in these, bees can play no important part; and conspicuous among these, as Prof. Cook well says, are wheat, oats, etc.; hence we can readily understand the blunder of our French writer.

I have no bee-men near me who have had a long experience, and my residence in the State is not sufficiently long to enable me to judge of the merits of this year as compared with the best of the white-clover harvest in this State; yet this has certainly been a very good season thus far, as white clover bloomed early, and the rains have been sufficiently frequent to keep it fresh and in the greatest profusion, and bees have gathered a large quantity of honey. Basswood is so scarce here in Eastern Con-

necit that we can depend upon it but little as a honey-plant.

Bees wintered well in this State, and those who pretended to care for them at all had no losses. We keep but few here at the Agricultural School. We wintered 8 in chaff hives. There was not a month during the winter that they did not have at least one good flight, and they came out this spring in splendid condition. B. F. KOONS.

Storrs, Conn., July 15.

Friend K., we are very glad to have you take this matter up and stop it as far as possible before these blunders get the run of the papers. By the way, it does seem strange that our newspapers grab for a blunder or falsehood, and give it no end of prominence, while true statements in great numbers are passed by. I have observed bees gathering pollen from the heads of timothy, several times, but never, if I remember, on any of the grains. For some time past there seems to have been a sort of gulf between scientists, or at least a certain class of scientists, and practical industrial people. We trust, however, that this state of things is passing by. Our experiment stations are doing very much indeed to bring these two classes of workers together, and to throw out theory promulgated by so-called scientists without *any* practical knowledge. What you say about the sea-urchins reminds me of the time when Agassiz and Tyndall undertook to teach about bees when neither of them had ever looked into a hive, apparently.

#### H. D. CUTTING

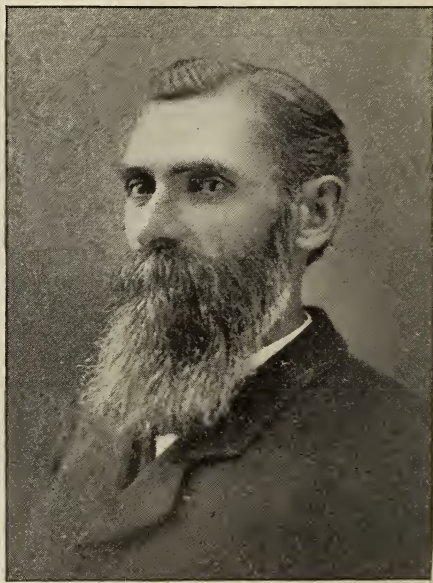
AS HONEY - EXHIBITOR AND EXPERT JUDGE AT FAIRS AND HONEY - SHOWS.

*Mr. Editor:*—I am requested to give a brief account of Mr. H. D. Cutting's work in connection with apiculture in Michigan. Although I am very much occupied at present, my friendship for Mr. Cutting, my appreciation of his valuable services, my knowledge of his enthusiastic work, and my desire that earnest, faithful, telling effort may be recognized, all make me more than willing to undertake the pleasant duty, even though, in the hurry of the season, I may fail to do justice to Mr. Cutting and his valuable services.

A word regarding Mr. Cutting as a man is necessary to understand his exceptional success. He is always a gentleman, and so wins the regard and confidence of those he may wish to influence. His pleasing address adds further to his power of persuasion. Most of all, he believes in his cause, and so acts with an energy and enthusiasm that attracts, then interests, and at last persuades. Lastly, he thoroughly studies any enterprise in which he engages, and so becomes a master, a leader as well. So in his work he never says "go," but, rather, "Come on, boys."

In two capacities Mr. Cutting has shown signal ability in connection with Michigan apiculture; has wielded exceptional influence, and has achieved brilliant results. I refer to his position as secretary of the State Society, which I think he has held since 1881, and his valuable service in connection with the State Fair, where, owing mainly to his efforts, the premium list has advanced from \$5.00 to

over \$300, which, if I am not mistaken, is the largest and most generous offered in the United States. Our State Society stood high when Secretary Cutting assumed the duties of secretary. We had previously had the benefit of such wide awake, capable officers as Bingham, Heddon, Benton, etc., and so it was no easy task to keep the interest and work up to the high-tide mark, especially during the discouraging seasons that have marked about a third of Mr. Cutting's term of office. Yet Mr. Cutting has more than achieved that distinction. While I would not say that the interest and profit at some of the old first meetings, with Moon and Rood, Postman, etc., on deck, were ever surpassed—those old meetings were delightful—I will say that, for the whole period together, the past nine years have stood at the front. The programmes, general spirit of the meetings, and valuable results achieved, have been most admirable, as many can attest; and for all this, secretary H. D. Cutting should have chief praise.



H. D. CUTTING.

Nor has Mr. Cutting's record been any less bright in relation to our honey-exhibit at the State Fair. In the old time, honey was sandwiched in between butter and vinegar, with somewhere about \$5.00 offered for premiums. Mr. Cutting appealed, on behalf of the bee-keepers, to the authorities. His petition was listened to and granted, and now Michigan has a special building devoted to the apiary, and offers premiums to the amount of \$300. For nearly all of this we are indebted to Mr. Cutting. Nor did he stop there. The revised list once adopted, Mr. Cutting went to work with all his energy and zeal and secured an exhibit worthy a special building and a generous premium list. Few exhibitions compare with the honey-shows of Michigan in quality of exhibits and neatness of display. For all this Mr. Cutting should have chiefest praise, with Mr. W. Z. Hutchinson as a near second.



Not only is Mr. Cutting praiseworthy for his energy and enthusiasm, which have accomplished so much, but he is remarkable for his modesty and reserve. He never pushes himself to the front, but is always urging others to places of honor and responsibility. While he never pushes himself for position, he always gives most efficient service when called upon to act. Michigan bee-keepers can never be too grateful for the valuable work that he has wrought in our State.

A. J. COOK.

Agricultural College, Mich., July 22, 1890.

In addition to the well-written sketch above, of Mr. Cutting's career as a honey-exhibitor, and of his services in connection with bee-associations, we would add that our friend was born in Hudson, Columbia Co., N. Y., July 22d, 1842. He attended school and worked in a printing-office till Sept. 9, 1858, when he removed to Michigan. He began working for the Michigan Southern & Northern Indiana Railroad, now known as the L. S. & M. S., in the capacity of a baggage-man. In 1861 he left this position and went into the army. In the spring of 1863 he commenced work at Newburg, N. Y., building marine and stationary engines. He was married to Miss Frances Gardner, Sept. 27th, 1865. He now has a family of seven children—four boys and three girls. In 1867 he removed to Clinton, Mich., and started a machine-shop of his own, and he has been engaged in building machinery ever since.

He has been interested in bees for a good many years, and commenced the business in 1866. He has not been a prolific writer, but, as will be seen by Prof. Cook's sketch, he has rendered valuable service to bee-keepers, particularly those of Michigan. He was president of the South-eastern Bee-keepers' Association, also president of the North American Bee-keepers' Association for 1886, and is now superintendent of the Bee and Honey Department of the Detroit Exposition. He has acted as an expert judge of bees, honey, and supplies, at many of the largest exhibitions. Besides bees, Mr. Cutting is interested in poultry and small fruits. He is also a student of the microscope, and finds great pleasure in all these pastimes. He is strongly opposed to the use of intoxicants and tobacco, and so far none of his children use them. So much for a good example.

Friend Cutting paid us a visit a short time ago, and we found that he was not only enthusiastic on bees and every thing connected with the industry, but he enjoyed intensely talking about machines and machinery. He is a very fine mechanic, and has a splendid knowledge of almost every thing connected with his trade.

#### RAMBLE NO. 26.

##### IN WAYNE COUNTY.

THE R. & W. R. R. conducted us rapidly into Wayne County. This and several other counties bordering the shores of Lake Ontario for a distance of a hundred and fifty miles, are all noted for their fertility, and especially for the fruit interests centered there. Large orchards of apple, pear, and

other fruits, both large and small, are visible at all stages of the journey. Peaches are also grown to a certain extent. As a consequence, from so much fruit culture Wayne County is one of the pioneers in the evaporating industry; and taken up at first on apples, the industry now extends to all kinds of fruits and to many vegetables. Every village has one or more large evaporators; and many small ones, with a capacity of five or ten bushels per day, are seen in farmyards. We learned that peppermint is also raised to a great extent in this county. In fact, a great share that is put upon the market is produced here.

In the pleasant village of Williamson we met Mr. Ashmead, who has kept bees quite extensively, but now has only a few colonies. Mr. A. fills out his spare time with taxidermy, and also in the fruit-business. He has spent several winters in the South, especially in Florida and South Carolina, and has had much experience in different localities, and thinks that western New York, and especially Wayne County, will not give bountiful yields enough to warrant any one to make a specialty of bee-keeping. While the immense orchards may yield much honey, the weather is usually unfavorable for bees to take full advantage of the brief honey-flow, and it is only in an exceptional year that bees store any surplus from this source.

After a brief call we sought the object of our journey into Wayne County, an old-time relative, and stopped over Sunday with him. We found him interested in fruit culture, but not in bees, and also found him, with the aid of the *Free Thinker*, trying to prove that Lincoln was an infidel, and also trying to demolish Samson. As to whether Samson rent the lion in twain or not, seemed to the Rambler a small thing to argue over. We do not pretend to understand all that happened over 3000 years ago; but we do know, both Christian and infidel, that a new era dawned when the gentle Galilean came upon earth, and gave us a religion of love; and if it is a failure in any place it is not the fault of the teachings, but of the one who does not receive the truth. This stumbling over things we can not understand, and which are of no vital interest to us in this era, was neatly illustrated in a sermon heard by the Rambler. Said the preacher, "When you eat a fish you pick out the bones and lay them aside and consume the life-giving flesh. So with the Bible. When we come to a hard bone, lay it aside; there is untold richness for the mind to feed upon without. But, my hearers, how many are devoting their energies to the gnawing of the lifeless skeleton!" Our friend, though versed in the false doctrines of the *Free Thinker*, was not so well versed in the Scriptures; for while in Sunday-school in the afternoon, the teacher asked him for a passage of Scripture from Hebrews; and after fumbling through Isaiah and the Psalms, said he in the Rambler's ear, "Where in the Dickens is Hebrews?" My opinion was clear, that more study of Scripture and less of the *Free Thinker* would have resulted in a far different moral condition of his mind.

I found my friend putting much faith in signs and other superstitions; and his theory as to the cause and cure of fever and ague was peculiar. He claimed it to be a spinal disease, because the chills run up the backbone; and a sure cure for it is to crawl downstairs head first for several days in succession.

Well, we left our friend with his infidel books and his theories, and we next met with a genuine surprise. We met, near Charlotte, an old friend who formerly peddled honey for the Rambler. His experience in bee culture on his own hook had shown him the ups and downs, like all the rest of us, and we found him immensely enjoying the downs. His family called such spells tirades. His fit was the most exasperating we ever saw. It had taken hold of him bad, both internally, externally, brain and muscle. We found him near the wood-shed, surrounded with bee-hives that had formerly been a joy, and he was just slivering them into kindling-wood. In our astonishment we cried out, "Why, friend Blake, what on earth are you doing?"



"DURN THE BEE-HIVES!"

"Durn the bee-hives," says he; and after a final finish of the one under dissection, he rested on his ax-handle, and said:

"See here, friend Rambler, you and I have always been good friends. We played in the band together. I beat the drum and you blew the horn. I know you have a tender spot for bee-hives; but, durn the hives! I'll smite 'em worse than I ever did the drum;" and he smote another hive all to flinders.

"But, see here, friend, why don't you sell your hives? They are well made, of good pine lumber. You ought to get the price of the lumber out of them."

"Yes, yes; I know all about selling hives. Let me tell you a little story. Five years ago I came to this portion of the State to work at the blacksmith trade. I started in the bee-business, and succeeded well for two years; got up this hive; it is different from any other you ever saw, and I was going to get it patented; but the seasons changed, and I have had losses ever since, and now I have only five colonies out of fifty. Nobody wants the hives. They are odd size, and even when I do find a customer he is some poor shirk who never pays for them. So, here's the remedy; it is short and sure, and there'll be no danger of my spending any more time and money on the durned hives. I tell you, this bee-business is wonderful. You get more'n ten thousand traps on your hands; and when you want to get out of the business, nobody wants to buy. Why, I'd trade these forty hives for forty good milking-stools. I could sell *them* to almost any farmer."

His tirade took strong hold of him again, and with a "durn the bee hives" his ax made havoc with the fixings. Our Hawkeye caught him. We are pleased with the result, for it is a reminder of some almost similar fits on the part of the

RAMBLER.

Friend R.. I am very glad you have given us a touch, with an illustration, in regard to the dark side of bee culture. If anybody should ever be tempted to go into bee culture because GLEANINGS represented that it afforded better inducement for making money than any thing else, I should be very sorry. Bee culture has its capabilities, and there are, occasionally, favorable seasons or brief periods when excellent results can be made in a very short time. And it is also true that one who is full of enthusiasm, and has the good sense and judgment to succeed in almost any business, would probably make a *fair* crop during almost *any* season. At the same time, it has perhaps more disasters connected with it than almost any other industry. Of course these may, to a large extent, be averted by keen oversight and looking ahead. As with many other rural industries, the one who succeeds with bees will probably be the one who has a *real* genuine love for them.

## MORE ABOUT FIXED DISTANCES

### ANOTHER DEVICE.

NOTWITHSTANDING the fact that I have not had much experience in moving bees more than in buying and selling, nor that I know that I never shall, yet I have read all the testimonials in GLEANINGS with much pleasure. On p. 451 Dr. Miller has given Ernest what he perhaps considers a pretty good "dose." I thought I would come out and help him take it. I have pondered over each new device, to see if I could find something that would help me to space frames in a hurry, especially when I'm working with a colony that takes delight in defending its home; but I have as yet found nothing that suited me. They all have the fixed distance indeed—so much so that one can't move the frames either way to get one out. Yet Ernest's remark, in his comment on Dr. M.'s article, is a *very* strong argument in favor of some kind of spacer. As Dr. Miller says, that furniture-nail seems to be the nearest practical of any thing yet mentioned in the journals; but, hold on! I had forgotten to mention the new device I have invented. Now, Ernest, earnestly listen while I try to describe it. Take strips of heavy tin and cut them into 1½-inch lengths, ¾ inch wide; round the corners of one end, and punch a little hole in it for a tack; cut the other rather in the shape of a board sled-runner. From the long corner of this end, measure ¾ inch and give it a square bend. Now for the way to use them. When you have 20 made—if your hive has nine frames that will be the number required—tack one in the upper left-hand corner of the inside of your hive, the distance from the end you want them on the frames, and even with the top. Now take the frame next to that side of the hive the spacer is on, and put one on the side of the top-bar next to you, as near the end as you think best. Treat each top bar the same way all through on that side. Now go diagonally across the top of the hive to the near right-hand corner, and tack one on the inside of the hive as before; then on the over side of each top bar, making one spacer at each end of each frame, but on different sides. You see, with the longer part of the tin tacked on the top-bar, one at each end on opposite sides, the short end with the



$\frac{3}{8}$ -inch slope bent out at right angles from the top-bar, that side of the bar at that end can not get closer than  $\frac{3}{8}$  inch to its neighbor, and the other end on the opposite side of the same. Now, as each frame is similarly arranged, also the hive, then the frames must stay just  $\frac{3}{8}$  inch apart until you wish to remove any of them, when all you have to do is to take hold of the spacer at the folded end, and raise it up, using the tack as a pivot; thus your frames can be moved almost as closely as if no attachment were present. You see, you can have frames spaced properly, and held for moving, or you can loosen the frames for manipulating, at will.

Carbondale, Kan.

J. H. MARKLEY.

Thanks; but I hardly think that our bee-keeping friends would tolerate your device. The tins would take too much time to manipulate.

## EARLY EXTRACTING IN CALIFORNIA.

### EXPERIMENTS WITH THE DIBBERN BEE-ESCAPE.

The following article from L. E. Mercer was overlooked, as it came with an order for goods. Though it is a little late we are glad to give place to it now.

We commenced extracting the first of May, two weeks earlier than we ever did before since I have been in California. Honey is coming in quite freely for so early in the season. Our scale hive gathered 10 lbs. on the 5th day of May. On the 3d we extracted 56 $\frac{1}{2}$  lbs. from it, all new honey. We have about 5000 sections on and nearly finished. Honey is of a much finer quality than I ever saw before, either here or in the East. Several sample bottles of it are on the table before me that I would say were empty bottles if I had not seen my wife fill them with honey. I will send you one of them, and, if you want it, several tons of the same kind.

Mr. Dibbern sent me two of his bee-escapes some time ago. We have experimented considerably with them, but they will not work for extracting. They get full of bees, especially drones, that seem to be lost, and the bees will not go through them. They worked well three or four weeks ago, before the hives were so full of bees. The drones seem to cause most of the trouble, but I have just received two more escapes from Mr. Dibbern that I think will work better, as they are only single, while the first were double; and the bees, especially the drones, would get lost between the two wires, and would fill up the space so full that they could not move one way or the other to find their way out.

You know, of course, that we have three kinds of sage here,—the black, that blooms first; then the purple, that nearly all of our honey is gathered from; and then comes the white sage, that, judging from the way nearly all honey-tables in California read, produces about all the honey here, but which, in fact, produces less than either black or purple sage. The sample I send is all from black sage, which always produces the whitest honey. The honey-flow is good at present, but the crop must surely be a light one, as we have had no spring rains. Although we had an abundance of rain in the winter, yet the honey crop is largely dependent on the late spring rains.

L. E. MERCER.

San Buena Ventura, Cal., May 7.

The sample of honey from black sage is, I think, the finest we ever saw in appearance,

and certainly nothing can excel it in flavor. It is certainly true, as friend Mercer says, if the bottle were filled it would be a very difficult matter to tell whether it contained something or not, without taking it up. Notwithstanding its perfect transparency, it is so thick that it hardly runs in warm weather. It seems to me that this honey should bring an extra price, for it is "gilt edge" if there is any gilt edge in the world.

## FIRST HONEY IN THE HIVE OR SECTIONS; WHICH?

### THE IMPORTANCE OF HAVING THE LOWER STORY CONTRACTED, AND FILLED WITH BROOD JUST BEFORE THE HARVEST.

*Mr. Editor:*—My attention has been called to your reply to question four, as asked by Mr. Naftel, on page 341. You there say, "Bees will be pretty apt, especially the Italians, to fill the brood-chamber first, no matter what the honey is; after that they will go into the supers if the colony is strong enough and there is a good flow of nectar. As a general rule, there will or ought to be enough inferior honey in the brood-nest to cause the first white honey to go above." Now, I seriously object to both these views, for on them hang all there is against the use of large hives for comb honey, as recommended by our fathers, and even by some of the present day, as opposing the contraction plan as recommended by myself and others, which to-day stands out prominently. No, sir! the bees must not fill the brood-chamber first with honey, and the sections afterward, Italian or otherwise, if we are to reap the best results from our bees. At the time the honey-flow commences, the brood-chamber must be filled with brood, with not to exceed five pounds of honey in it, and one pound will be far better than the five. If it is not thus filled with brood, the wise apiarist will take out all the combs not thus filled, and store them away where the bees can not have access to them at this time of the year; for if they once commence to store honey in the combs below, to any considerable extent, thus early in the season, instead of going into the boxes they will begin to crowd the queen with honey to a greater or lesser extent, thus removing the boxes further and further from the brood, till at last there will be little brood in the hive, little honey in the boxes, and the colony in very poor shape for winter on account of the fewness of the bees left, owing to this same crowding-out of the queen from the brood-combs. The work of every bee-keeper should be, during the fore part of the season, to see that his combs are being rapidly filled with brood, and all that inferior honey spoken of used up and turned into brood which is to make the bees for the harvest, till the hive is literally filled with brood; when, if there is a pound of honey comes in after this, it must go into the sections or no, where. Here is the rock on which those favoring the Italians and those opposing them as comb-honey gatherers split; for, if managed as given in your editorial, the Italians will be unprofitable every time; while, if managed as I propose, they will outyield the blacks as to honey every time; while at the end of the season they will have honey enough in their brood-combs for winter—when the black bees will be almost in a starving

condition. This is not mere theory, but something any one can prove to his or her satisfaction in one year by working a few colonies on each of the two plans. This season I have been working some bees five miles from home; and as the party where they are believed that the bees should not be robbed too close, I left the whole number of combs in these ten-frame Langstroth hives, to please him. The result proves just what I have said above; for after a short honey-season I have about 50 pounds of honey in the brood-chamber of the hive, with perhaps an average of 10 pounds in the sections. If these combs had been cut down to about seven, and those well filled with brood at the commencement of the harvest, the result would have been about 45 pounds in the sections, and 15 pounds below, had the bees been Italians; or if blacks or hybrids, 40 pounds in the sections and 5 below.

One of the many things about the Italian bees which please me is their desire to store honey in the brood-chamber; for if rightly managed they will give a good crop in the sections, and at the same time generally have stores enough, or nearly so, below to winter upon. Just as soon as they begin storing honey in the sections they begin storing to a limited extent in the brood-chamber; and as the honey-season draws toward a close they seem to be on the alert as to their own interest, and the queen ceases to lay as prolifically as at first, which allows of their storing the later honey in the brood-combs for winter stores, while their keeper has plenty of the most salable honey as his share of the season's work. With the Germans, Syrians, and Carniolans, the case is different; for they continue to raise brood right along at a rapid rate so long as honey comes in from the field, so that, at the end of the harvest, we have no honey to speak of in the hives, and a host of useless consumers on hand as the result of this out-of-season breeding.

I wish to go on record as saying that one of the greatest secrets of successful bee-keeping is having the brood-chamber full of brood at the commencement of the white-honey harvest. I would certainly have it thus, even if I had to take all the combs out of the hives but three, leaving the bees but three combs below till after harvest, when I would at once supersede a queen that would not keep a greater number than that filled with brood three weeks previous to the harvest. If lack of brood is caused from weak colonies in the spring, then I would unite all colonies which were thus weak, three weeks before the honey-harvest, even if I had to divide afterward, considering that I would be a gainer by so doing, should I wish a greater increase than this doubling would allow of.

Borodino, N. Y., Aug. 2. G. M. DOOLITTLE.

Friend D., you have misunderstood us this time. We had no idea of recommending that the space for brood in the brood-chamber should be filled with honey; neither did we think of having more room in the brood-chamber than is needed. You know that, for some time back, 8-frame hives have been taking the place of 10-frame. Now, after these 8 frames are as full of brood as we can manage to get them, there will be some space for honey left around the corners; that is, when white clover opens there is generally room to put quite a little in the brood-nest without at all interfering with the brood. And this

space is usually filled before honey is stored above, especially if they are Italians. Ernest made the answer you allude to; but his idea was simply this: That we should manage to get the white honey into the sections as much as possible; and in this you are in perfect agreement with him. No one nowadays would recommend any method of management that would fill the brood-combs with honey in place of eggs and brood at the commencement of the season. In fact, the great effort and aim all along the line has been to get our clover and basswood honey into the sections. When it comes time for the bees to fill up for winter, of course we have a different matter to consider; and if we can so manage as to have only one pound or less in the brood-combs, and all else in the sections, all the better. But with us, there will probably be a pound or more scattered around near the pollen; and, of course, the pollen is to be *all* in the brood-combs and not in the sections.

### CALIFORNIA RUNAWAY SWARMS.

AN INTERESTING ACCOUNT OF HOW THESE SWARMS WILL LOCATE IN QUEER PLACES.

THE strange homes that bees sometimes take up with in California make an interesting feature of study to the eastern visitor. In Los Angeles I saw a large swarm busily storing honey in the cornice of a large building on a principal street. Although there is a fine of \$500 for keeping bees within the six miles square of the city limits, yet this "hive" did not seem to fear it much, and the police did not arrest them in their lofty home. Perhaps it was these same bees that I saw working away on the ripe fruit in the stalls in a crowded street when in the city the other day. Do you have city bees in the East? There are more

#### QUEER PLACES FOR BEES TO LIVE

here. A man plowing a vineyard told me he found a swarm in a vine, and they had quite a bit of comb built. I myself have seen comb in a bush where a swarm had evidently started a location, but had become discouraged, and left. I have also seen a swarm hanging in a bunch while some of the members were bringing in pollen and depositing it in the center of the mass of bees. At such times they would defend their branch like a hive, and I like to be careful in handling a chance swarm until it is discovered whether they have located or not.

Bees often deposit honey in the rocks in California. Quite often it is in almost inaccessible places. Several have told me of seeing it run down the rocks in hot weather. There was a newspaper account, last year, of 60 tons being taken from one place in the rocks. Much of this may have been old honey that would bring but a low price. Perhaps what would strike the eastern bee-keeper as being as novel as any thing would be to find

A DESERTED BUILDING ALIVE WITH BEES, under the shingles, in the cornice, between the chimney and wall, and odd spaces wherever they could get. We once came on a large frame farm building that had for occupants ten or eleven swarms of varying sizes, according to the space they could get to build in. We tried to take some of them that were in particularly exposed positions, but it was too near sundown, and we had to give it



up. We were at the time coming home from a neighboring village, with three or four swarms, and some honey we had taken from the attic of a hall building. The bees do not always wait for a building to be unoccupied. A sight that had quite a funny side to it was one we saw on the same trip. A "section" man on the railroad lived with his family in a house that was something like a beehive and dwelling-house combined. Bees were buzzing all around on two sides of the house, so that the children and everybody kept out of that part of the yard. There were, I think, seven swarms. What had been the pantry was covered with bees on the windows inside. One door was fastened up, because, should you open it, a hive of bees would be a foot above your head. We went upstairs to make an examination, and found bees in the windows inside. The whole place was wonderfully suggestive of a big bee-hive, and the human inmates had learned to take the matter as coolly as could be expected. We offered to pry the boards off and take the bees away; and although we left our address, and they were very willing to get rid of them, we have not heard from them to date. It may be because they think it less trouble to stand the bees, now that they have become used to them, than to write us a postal card. But we must go over and see about it, for I know they would thank us to take the bees away.

#### BEES IN CHIMNEYS.

Several have told us of bees coming down their chimneys, in their efforts to find a home. I once saw a hive with a comb in, placed on the top of a chimney to coax some bees out that had taken refuge there, and let the family breathe freely again, for they were not used to bees. It is often that bee-men are called upon here to remove a swarm of bees that have found a lodging in some dwelling. We keep a large strong cold chisel for that purpose.

It must be remembered that the dry climate here has given us a country without trees, except the live-oaks, in limited numbers. The bees have very little chance to start new homes in the trees, and must get into some building if they can, or take to the mountains. What cavities there are in the trees soon get filled with bees, and they are not large generally. We have got into the habit of calling small swarms "tree swarms," if we don't know where they came from. I could take you to a dozen trees with bees in, within a short mile of here. One is in an oak under which the public road to the railroad station passes. It has two small swarms. As the trees are valued for shade and ornament, it is rather difficult to get permission to cut into them.

We were rather pleased to see the swarms coming from the lowland to the highland at the base of the mountain, where our apiaries are. The black sage around us was just in bloom at swarming time, and it called the bees our way, and it seemed as though all our empty hives and boxes would catch bees. We had five or six on the horizontal limb of a large live-oak, with a cleated plank running down to a ledge of rocks near by; and I several times walked down that plank with a hive of new bees, direct from the Lord, so far as I could know. We got a few swarms also by putting some store-boxes, with old honey inside, in the trees.

So it came about in some wonderful way that a large apiary for a beginner has been built up. It seems very strange, when I stand in the midst of

the eager, buzzing throng of bees, scurrying in all directions, that four short months ago I knew nothing, practically, about bees. My experience then was confined almost entirely to seeing my dear mother, years ago, when I was a child, take the old-fashioned glass-ended boxes of honey from the hives. I remember with what intense delight I watched the bees and looked at the wonderful comb filled with that nectar that every child likes so well. This feeling all came back to me, just as it was then, when I saw some hives of bees at a friend's near Los Angeles, and decided to leave the strife of the city and deal not with men so much as with these little creatures which the great God had made, and which seemed to understand him better than the mass of seeking, bargaining men in the city. It would be hard to give you a correct idea of the relief with which I turned away from the strife for existence in commercial circles in Los Angeles, to watch for a half-hour these busy workers; but busy it seemed to me in an entirely different way. I never want to forget that day. I promised God, that, if he would let me have some of those pretty bees out in the beautiful clean country, I would never try to be rich again. If you have never tried to run a race with the sharp business men of a large city, be satisfied with your bees until God calls you into some other sphere.

Since our apiary has increased so rapidly in these short months since spring, there have been several critical times. But the most critical of all was when Henry and I both got to taking credit for the success we had met. During this period, before we got this feeling driven away, I believe nothing flourished about the apiary as it did before. Distrust in each other sprang up, and we might have been foolish enough to separate had we not realized where the trouble was. How strange that we should feel so humble and so happy in beginning, and that we should come near forgetting it when success came, and so spoiling it all!

We have extracted so far, up to July 20, about 27 of the 60-lb. cans. Of the comb honey, we have had but 130 lbs. This is a small showing compared with some California apiaries, and we have at times been ambitious to have several hundred stands. But perhaps we have enough for the first year. Had we more, we should not have the time we now have to spend in the study of the Bible, which is the most delightful book of all, when understood. We learn there how man came to be out of harmony with the happy order of creation, and how to get back into place again. As you may well suppose, we enjoy this study far above bee-keeping.

When I came out into the country in California there were so many new and strange things that I felt almost like a child commencing to learn every thing over again in a new world. The wonders of the mountains, the trees, and the fruit, made a deep impression. Figs, prunes, and peaches, are now ripe. We have a long stick to poke the figs down from the trees in our yard. Apricots are about gone, but the scattering ones that are left are good. The fruit is like the peach, but the tree looks like a cherry-tree. Banana, palm, pepper, eucalyptus (or rubber-tree), and many species of the cacti, are here. Geraniums grow higher than my head, and sometimes they make hedges of them. The "daisy," that the Ohio farmers are so afraid of, grows into a tree here with wood and bark.

Sierra Madre, Cal., July 24.

W. S. RITCHIE.

Friend R., like yourself I was greatly interested in the strange places that bees choose for homes in California. When I was there we found them in holes in the ground, in the dirt, and in the side of a bank; and one friend with whom I stopped was in the habit of getting a slice of honey for his dinner out of a hole in the rocks. As fast as he broke off the chunks they built more comb and put in more honey. It does me good to know that you find enjoyment just as I do, in studying God's works off alone by yourself. I like the great cities once in a while, with their crowds of human beings; but I very soon long for the quiet of my creek-bottom garden, with its beautiful little spring, and strawberry-plants with their vigorous runners ready to be trained (and almost taught what to do) by my hand. The very thought of it is restful to me; and if it were not for these enjoyments, and the restful feeling that comes to me, I do not know how I should ever bear my daily burdens and responsibilities. The man whose life is too full of business to give him time to study his Bible and to become acquainted with his God through God's works is to be pitied. I, too, poked down figs and English walnuts with a long stick. But that was in December, and you talk about figs in July. Truly one must visit California to get the hang of the many things that are so queer and strange.

### FOUL BROOD.

THE FORMIC-ACID TREATMENT; THE SALICYLIC-ACID TREATMENT GENERALLY REGARDED AS A FAILURE.

*Mr. Root:*—As far back as 1882 I treated foul brood successfully with formic acid, being, as I believe, the first bee-keeper to use it for this purpose. At that time I had just succeeded in getting my apiary into a healthy state after a struggle of several years' duration with a most virulent form of foul brood. As I happened to have only a single foul-broody comb whereon to experiment with the formic acid, I did not feel justified in speaking or writing of it as a remedy for this destructive disease. However, in 1887 foul brood was reintroduced into my apiary from a neighbor's (in which it had been and is still rampant); and as I had a favorable opportunity of giving my new remedy a trial, no time was lost about it.

My first proceeding was to mix two teaspoonfuls of formic acid in a quart of syrup; the syrup thus acidulated was dropped on or into all brood-cells, whether diseased or healthy, twice a week, until the middle of June, when honey-storing begins in this district. An undesirable result of this rough-and-ready treatment was, that the smaller larvæ were floated out of the cells, and the loss in this way was very considerable; but every hive became healthy. To make matters sure, I fed all my bees in the autumn with acidulated syrup, the proportion of acid to each quart of syrup being doubled, or four teaspoonfuls to the quart. Although the acid flavor was very strong, the bees took it readily; and in the warm evenings, when the bees were hard at work fanning at the hive-entrances, the smell of the acid was very perceptible; and so far I can safe-

ly say an apiary was never cleared of foul brood without destroying a bee, frame, or quilt, in as short a time as in this case. I may add that a friend who keeps a dozen frame hives eradicated foul brood by the same treatment.

In regard to the trouble of using formic acid as I have described, and also the resulting loss of brood, it occurred to me to try it by pouring it into one side of a clean empty comb, which was then placed in the hive as far as possible from the entrance, and this plan of using it has proved so successful that I question whether any thing better can be devised. When used in this way, with a strong stock and warm weather, the evaporation of the acid is so rapid that the fumes, on removing the quilt, "take one's breath away" for the moment, but the bees don't seem to mind this in the least, as they cluster on and store honey in the comb containing the acid. The first thing which will strike the experienced bee-keeper on opening a hive in this condition is, that the offensive odor peculiar to foul brood has passed off; and if he examines the once foul-broody combs he will find that the bees have cleared out all the putrid matter, and that all the brood is in a condition of perfect health. A second application of the acid in this way will in most cases suffice to get a hive clear of foul brood.

As a remedy for foul brood I do not think any thing in the British Pharmacopœia is comparable to formic acid; and those who have vainly tried salicylic acid will do well to give it a trial. Curious to say, although the latter has been pronounced a failure by every intelligent bee-keeper who has tried it, it is still mentioned as a remedy in some of the bee-books published in England. For myself, judging from its high evaporating point and comparative insolubility, I do not and never did believe it possible to cure foul brood with it. On the other hand, formic acid evaporates rapidly at ordinary atmospheric temperatures, and so it is brought into the closest possible contact with every part of the interior of the hive and every part of every cell, grub, and bee, it contains. Having no offensive odor, it can be used while honey is being stored, without the slightest fear of tainting it; and, although last, not least, it is not expensive, a bottle containing 1 lb. costing about two shillings and nine pence, or less than 75 cents in American money.

The formic acid I use is known chemically as a 10-per-cent solution of anhydrous formic acid, and its specific gravity is 1.06. Bee-keepers should be careful about this, because absolute formic acid is not only expensive, but it is very dangerous to handle, the least drop of it causing very painful ulcerous sores. In fact, any solution stronger than that given above is undesirable, as it has a solvent action on the beeswax in the combs, although, strange to say, it does not affect paraffine wax.

Foul brood is rapidly becoming a serious pest, both here and in England; and if its progress is not checked it will certainly put an end to bee-keeping in these countries. This is, in my opinion, largely the fault of the bee-keepers themselves; as, when it makes its appearance, instead of trying for a remedy they regard it with a sort of Mohammedan fatalism, as something against which there is no use in striving.

In conclusion I wish to point out that, to make an experiment on the lines I have given, will cost very little money, and not more than five minutes' time; and if the necessary conditions (a strong hive and



warm weather) are present, I guarantee its complete success.

ROBERT SPROULE.

Fairview, Ireland, July 5, 1890.

We are glad, friend S., if formic acid will prove to be a germicide for foul brood. We are pretty sure from our own experience, and from reports that have passed our eyes, that salicylic acid is about so much time wasted; and the same is almost equally true of carbolic acid, or, as it is sometimes termed, phenol, in its pure forms. It would be valuable, however, if an acid could be discovered that would kill the germs of the disease, or, better still, prevent infection in healthy colonies, in apiaries where the disease exists or has existed. After all, we feel like cautioning our friends about fussing very much with acids. Let scientists, and those who can afford it, demonstrate whether formic acid is superior to carbolic and salicylic acid. Putting bees into clean hives, and compelling them to build out foundation, is an *absolute and sure* remedy.

#### WEIGHT OF SECTIONS.

MRS. HARRISON ALSO TELLS US SOMETHING ABOUT HER ENJOYMENTS.

I ASKED a groceryman last fall, who had a fine store, well stocked, and apparently considerable trade, if he wanted to purchase some honey. He replied, asking, "What condition is it?"

I said, "White clover, in one-pound sections."

He said, "What do they weigh?"

"Most of them one pound," I said. "I weighed a number of them to-day, and they were straight up and down, exactly one pound."

He replied, "I bought a lot lately that weighed a trifle over three-quarters of a pound, and that is about the weight I like. I bought them by the pound, and sell them by the piece."

I interviewed a couple of grocerymen lately, who deal exclusively in the best goods the market affords, with reference to the weight of sections. They both replied in substance as follows:

"I want them to weigh as nearly one pound as possible, not overweight, for then I lose, as I buy by the pound. In all large markets there will probably be some persons who will prefer to buy sections of light weight; but those who do a straight business will want those of full weight. Those who prefer the light weights are the kind of persons who claim to sell more pounds of sugar for a dollar than other dealers; but when you get it home and weigh it you find they have forgotten to put in the extra weight."

#### RECREATION.

Yesterday I baked, and made the necessary preparations to go to-day on an excursion up the river on a boat, with the Sunday-school; but circumstances beyond my control kept me at home, so I have a change by writing in the shade of a tree. Idleness is no recreation for me. As a pastime I am raising cuttings from roses, starting them in a crock of sand which I keep upon the top of a hive, in the hot sun. The sand is kept wet all the time, but no water is allowed to stand on the surface. They are putting forth new leaves now, which shows that little white roots are starting. In a few days I will put them into little pots filled with rich soil, which I will put into a box of sand, which will

be kept damp to keep them from drying out, and will exchange for larger ones as soon as their growth demands it. I save all the paper bags for various uses, and utilize all of the smaller ones to pin over nice bunches of grapes, to keep them secure from insects and birds.

It is recreation for me to study the Sabbath-school lesson in company with many millions of fellow-Christians throughout the world. The last few weeks we have been accompanying the Master in that last sad journey toward Jerusalem.

Peoria, Ill., July 22.

MRS. L. HARRISON.

Why, my good friend Mrs. H., I think ever so much more of you than I ever have before, and that is saying quite a good deal. So you really love to see things grow, as your old friend A. I. Root does. If you ever see Dr. Miller again, you just commence talking roses to him. We have a rose-garden too—a little one. Dr. Miller sent us the plants; and I tell you it is just fun to see them put out their bright new leaves, and to see them push out their little white roots. Starting things in sand always had a special delight for me. The sand is so clean, and keeping it of just the right degree of wetness during hot summer days, has a special fascination about it. There is a real inspiration in your last paragraph. It did not occur to me before, that, when we are lovingly studying and striving to follow the Master, we are really joining the ranks with *millions* of fellow-travelers. And the grandest thought of all is, that these fellow-travelers are also fellow-Christians.

#### BAD BOYS, AND WHY.

A FEW WORDS TO THE GLEANINGS BOYS, FROM MRS. J. HILTON.

Mr. Root:—A remark was made to me the other day that I want to speak to the GLEANINGS boys about. The remark was, "Charley J. has gone crazy, and has been sent to the insane asylum."

I could hardly believe my informant, because that same Charley was a young man we had often spoken about as being such an unusually good-appearing young fellow, in spite of the fact that he never went to Sunday-school or church, nor even to the merry-makings of the young folks. But it was proved to me that he was crazy, and, saddest of all, that the cause of his insanity was impure thoughts. Never going to Sunday-school or church, and rarely associating with Christian people, his thoughts were otherwise occupied. The old quotation, "Satan finds some mischief still for idle hands to do," should also read, "Satan finds *more* mischief still for idle *minds* to do." Dear boys, you who think it is so tiresome of mother to be so sharp after a fellow if he is not on hand to go to Sunday-school or church, they know what mischief may get into those busy, active brains, if they are not kept in the straight way; and while you are learning about God and his wishes you are not only well occupied at the time, but you are learning things that will help you when mother and father are not by to help you. Be thankful that you have some one who is anxious as to what you are doing, and pray that you may never, never feel like saying to your parents what one poor boy did whose mother always let him do as he wanted to in every thing, because

she felt it so hard a thing to vex her boy. He was doomed to death for some misdeed, and his mother went to see him in the prison; but he would not look at her, but told her that it was all her fault that he was where he was; that if she had made him go to church and other good places he would not have learned so much evil and so little good. Mr. Root tells us that he has 10,000 subscribers, and that represents 10,000 boys or more. Just think what an army of you there is! I always loved the boys, even when I was a little girl, and my love has not cooled, only grown more desirous for your good, and anxious that you should make good wise men, men whom we can point to and say, "There goes a Christian." Have you thought what that means? It means temperance men, honest men, loving, generous, thoughtful, earnest, working human beings; and it means that, although your life may be so full of work and care that it seems as though you could not do another thing, yet as God's bounty to us is like a bucket filled and running over, so even your full life may have the edges so lowered that considerable may run over to help those outside of your individual bucket, blessing not only them but yourselves in the doing. MRS. J. HILTON.

Los Alamos, Cal., July 13.

My good friend Mrs. H., I most heartily indorse every word you have said; and I can think of no more fitting closing words than the beautiful text that all the world admire so much, whether they practice it or not: "Blessed are the pure in heart, for they shall see God."

## HONEY STATISTICS

FROM ALL PARTS OF THE UNITED STATES.

In order to read understandingly the reports given below, it will be necessary to observe the following points: First, the State is given; then next in their order are the names of the reporters, with their respective postoffices. To indicate locality, the usual abbreviations are used—N. S., E., and W., for north, south, east, and west; N. E. for north-east, etc. The letter C indicates the word "central;" E. C., east central, etc. In the following list, the first figure represents the month, and the second figure the date at which the report was rendered. The small letters, a, b, c, d, etc., indicate the answers to the questions propounded in questions a, b, c, etc., just below.

On the 18th of July we prepared the following circular letter and sent it out to our statistical reporters:

Dear Sir:—It is a little early yet for many localities to render a definite report of the honey crop for the year; but it is highly important that we should know the prospects, and the probable honey yield, that we may better determine when and at what price to move off our crop.

a. What are the prospects for an average crop of honey this season?

b. What is your average yield in surplus, so far, per colony?

The replies received are as follows:

### ALABAMA.

J. M. Jenkins, Wetumpka. C. 7-21.  
a. None at all; b. 00,000 lbs. per colony.  
W. P. W. Duke, Nettleborough. S. 7-29.  
a. About 100; b. 85 to 90.

### ARIZONA.

Jno. L. Gregg, Tempe. C. 7-24.  
a. Good; b. about 90 lbs.

### CALIFORNIA.

R. Wilkin, San Buenaventura. S. W. 7-25.  
a. The season is over; 70 lbs. I count an average crop per hive here. b. The average for this season is about 45 lbs. per hive. The quality averages very fine.

Wm. Muth-Rasmussen, Independence. E. 7-25.  
a. Excellent; b. about 60 lbs.  
W. W. Bliss, Duarte. S. E. 7-24.  
a. Very good; b. 200 lbs. comb honey.

G. W. Cover, Downieville. N. 7-26.  
a. Good; b. 24 lbs.

J. P. Israel, Olivenhain, Cal. S. 7-26.  
a. There is only half a crop in southern California. The season is ended; b. about 40 lbs.

### COLORADO.

Mark W. Moe, Denver. C. 7-26.  
a. Fair to good; b. as I have considerable honey on the hives ready to take off, it would be impossible to tell.

### CONNECTICUT.

Daniel H. Johnson, Danielsonville. E. 7-22.  
a. Not very good, but better than last year; b. can not average for the whole. If we count them all, the average would be about three.

Lewis Sperry, Hartford. 7-21.  
a. Not very good; b. about 15 lbs.

### FLORIDA.

J. L. Clark, Appalachicola. W. 7-24.  
a. Nearly a total failure in this section.

### GEORGIA.

T. E. Hanbury, Atlanta. N. 7-22.  
a. Poor; b. 20 lbs.  
J. P. H. Brown, Augusta. E. C. 7-22.  
a. Prospects for an average crop are very poor; b. about 25 lbs.

R. H. Campbell, Madison. 7-23.  
a. As slim as ever I saw it for the past 25 years; b. some colonies have starved. I could not have taken 10 lbs. from my 80 colonies during the whole season.

Walter McWilliams, Griffin. W. C. 7-26.  
a. The spring crop is a total failure; b. could have extracted about 12 lbs., but reserved it to feed.

### ILLINOIS.

C. C. Miller, Marengo. N. 7-21.  
a. Very poor; b. at a rough guess, 12 lbs.  
Mrs. L. Harrison, Peoria. W. C. 7-21.  
a. The prospects for a total failure are good; b. with the exception of a very few colonies, which will run from 10 to 20 lbs., the surplus is nothing.

C. Dadant, Hamilton. N. W. 7-21.  
a. Not good; b. 10 lbs. Too cold and too wet in early spring, and too dry now.

A. B. Goodrich, Bloomington. C. 7-22.  
a. Prospects for honey this season less than 30 per cent of average crop. b. My yield in surplus to date is less than 5 lbs. to colony.

Reuben Havens, Onarga. E. 8-4.  
a. Very poor; b. not to exceed 10 lbs.

### IOWA.

Eugene Secor, Forest City. N. 7-21.  
a. The poorest for several years; no white honey to speak of. Not 10 lbs. per colony; b. not to exceed 10 lbs.

J. W. Bittenbender, Knoxville. S. E. 7-25.  
a. All dried up; b. 0.

Oliver Foster, Mt. Vernon. E. 7-21.  
a. No prospect; b. none taken; perhaps 15 lbs.

A. Christie, Smithland. W. 7-22.  
a. Fair; b. about 40 lbs.

### INDIANA.

Mrs. A. F. Proper, Portland. E. C. 7-26.  
a. Good; b. about 50 lbs.

I. R. Good, Vawter Park. N. W. 7-25.  
The honey crop is a failure in this part of the country.

### KANSAS.

B. F. Uhl, Boling. 7-23.  
a. Not good; too dry; b. 24 lbs.  
Frank H. Howard, Garden City. 7-26.  
a. Good, if the grasshoppers let the alfalfa alone; b. 50 lbs., half comb and half extracted.

J. B. Kline, Topeka. E. C. 7-29.  
a. Poor; b. not any.

### KENTUCKY.

D. F. Savage, Hopkinsville. S. W. 7-24.  
a. Early crop unusually large; b. 50 lbs.  
J. P. Moore, Morgan. N. 7-22.  
a. The drouth has brought the season to a close; b. 150 lbs.  
Jno. S. Reese, Winchester. C. 7-21.  
a. Above the average; b. 75 lbs.; season ended.

### LOUISIANA.

J. W. K. Shaw, Loreauville. S. C. 7-22.  
a. Poor; b. no surplus yet.  
St. Julien T. Moore, Monroe. N. C. 7-23.  
a. Honey crop late, but hives filling rapidly now; b. from 90 hives, extracted, average 30 lbs.

### MAINE.

John Reynolds, Clinton. S. E. 7-24.  
a. Very poor; b. crop not off yet. I should judge less than half a crop.

C. W. Costellow, Waterboro. S. W. 7-21.  
a. Good; b. 33 lbs.

### MARYLAND.

Simon P. Roddy, Mechanicstown. 7-23.  
a. Poor; b. 10 lbs.

S. Valentine, Hagarstown. 7-26.  
a. Not very good; b. about 25 lbs.

### MASSACHUSETTS.

A. A. Sanborn, Westfield, Mass. S. W. 7-25.  
a. Poor; b. I don't know.  
E. W. Lund, Baldwinville. N. C. 7-23.  
a. Good to date; b. 25 lbs.



Wm. W. Cary, Colerain. N. W. 7-21.

a. Prospect poor; b. about 50 lbs.

#### MICHIGAN.

George E. Hilton, Fremont. W. 7-22.

a. Never so poor; b. not to exceed 1 lb.

A. J. Cook, Lansing. C. 7-21.

a. The crop of light honey is almost a total failure; b. I can't say, but I don't think it is 20 lbs. I doubt whether it is 10.

James Heddon, Dowagiac. S. W. 7-24.

a. For this part of Michigan, I think the surplus crop is not over 35 per cent; b. not to exceed 35 per cent of our average yield so far; and now the drouth upon us makes our prospects for fall crop look poor indeed.

H. D. Cutting, Clinton. S. E. 7-21.

a. The poorest in several years; b. I have not taken any off; but from present indications, about 15.

R. L. Taylor, Lapeer. 7-22.

a. An indelible blank; b. 0. White clover and basswood have been a total failure.

#### MINNESOTA.

W. Urie, Minneapolis. E. C. 7-24.

a. I have not one pound of white honey made in boxes, and very little extracted. About the same report all over the State. Up to date, the poorest season for the past ten years; prospect good for a fair crop of dark honey; there will be no white comb honey, so far as I can learn, in the State.

A. F. Bright, Mazeppa. E. 7-25.

a. No prospects whatever; b. not a pound.

N. P. Aspinwall, Harrison. C. 7-22.

a. Good with me; b. none taken; too early.

D. P. Lister, Lac Qui Parle. W. C. 7-23.

a. Good; b. 20 lbs.

#### MISSISSIPPI.

Jas. M. Lewis, Osyka. Miss. E. 7-23.

a. The prospect for an average crop is very poor, owing to so much rain. The honey is very poor; b. about 45 lbs.

#### MISSOURI.

E. M. Hayhurst, Kansas City. W. 7-26.

a. Half a crop; b. 35 lbs. comb honey.

Chas. L. Gough, Rock Spring. E. C. 7-24.

a. None at all; b. 12.

S. E. Miller, Bluffton. E. C. 7-21.

a. Very poor; b. extracted, 20 lbs. Comb not worth mentioning.

James Parshall, Skidmore. N. W. 7-21.

a. The prospects are bad; b. we may get about 25 lbs.

Jno. Nebel & Son, High Hill. E. C. 7-21.

a. Prospects to date have been poor; good, though, for an average fall crop from Spanish-needle bloom; b. not more than 5 lbs. per colony.

#### NEBRASKA.

J. W. Porter, Ponca. N. E. 7-21.

a. Very poor; b. about 20 lbs.

J. M. Young, Plattsmouth. 7-21.

a. The prospect for a fall harvest is good; plenty of rain now; b. I can not give any definite result.

F. Kingsley, Hebron. S. C. 7-21.

a. Good; b. our surplus flow begins in August.

Jerome Witte, Falls City. 7-22.

a. The prospects are poor; b. nothing.

#### NEVADA.

E. A. Moore, Reno. W. C. 7-23.

a. Very good; b. about 50 lbs.

#### NEW HAMPSHIRE.

S. F. Reed, No. Dorchester. C. 7-23.

a. Very poor so far; b. about 25 lbs.

C. E. Watts, Rumney. C. 7-26.

a. Fair; b. have taken but little so far.

#### NEW JERSEY.

Watson Allen, Bernardsville. N. C. 7-21.

a. The prospect is not good; b. about 12 lbs.

J. D. Coles, Woodstown. S. W. 7-21.

a. Good; b. 10 lbs.

#### NEW YORK.

H. P. Langdon, East Constable. N. E. 7-25.

a. Poor, at 150 per cent increase; b. none.

G. H. Knickerbocker, Pine Plains. 7-25.

a. Not more than  $\frac{1}{2}$  of a crop in this part of the State; b. not to exceed 25 lbs.

F. Boomhower, Gallupville. E. C. 7-22.

a. Very poor; b. 0.

G. M. Doolittle, Borodino. C. 7-21.

a. Poor; b. not any. Basswood is in full bloom, but it is so cold, cloudy, and windy that the bees can not work.

#### NORTH CAROLINA.

Abbott L. Swinson, Goldsboro. E. 7-20.

a. Poor indeed; b. none.

#### OHIO.

A. B. Mason, Auburndale. N. W. 7-23.

a. Poor; b. about 20 lbs., extracted.

Chas. F. Muth, Cincinnati. S. W. 7-24.

a. The honey harvest was below medium in southern Ohio and Indiana, as far as it has come under my observation; b. I don't think that the average yield per colony was 25 lbs. of honey. My own average was not quite 15 lbs. of extracted honey.

S. A. Dyke, Pomeroy. O. 7-26.

a. Very poor; b. 23 colonies, surplus 60 lbs.

Dr. G. L. Tinker, New Philadelphia. N. E. 7-19.

a. Not favorable; b. of extracted and comb honey together, about 25 lbs.

Dr. H. Besse, Delaware. C. 7-23.

a. It has the appearance of being good; b. about 25 lbs.

#### OREGON.

George Ebell, Baker City. E. 7-26.

My bees all died last winter.

#### PENNSYLVANIA.

Thos. C. Davis, Pittsburgh. C. 7-25.

a. Prospects are not good; b. about 25 lbs.

Geo. A. Wright, Glenwood. N. E. 7-26.

a. Total failure; b. 5 lbs. 5 oz. from 130 colonies.

J. P. Watts, Murray. C. 7-22.

a. Poor; b. nothing.

S. W. Morrison, Oxford. S. E. 7-21.

a. Our honey season is over; b. about 50 lbs. comb, or 80 lbs extracted.

A. A. Harrison, McLane. N. W. 7-25.

Worse and worse. Basswood is gone. I may get 200 lbs. white honey from 80 good colonies. June 15, only 16 had swarmed.

#### RHODE ISLAND.

A. C. Miller, Providence. E. 7-24.

a. Crop so far is above the average; b. about 50 lbs.

#### SOUTH CAROLINA.

J. D. Foose, Coronaca. 7-21.

a. Poor; b. no surplus.

W. J. Ellison, Stateburg. C. 7-22.

a. Poorest for many years; b. about 15 lbs.

H. T. Cook, Greenville. 7-26.

a. Very poor; b. 0.

#### TENNESSEE.

W. H. Greer, Paris. N. W. 7-21.

a. Poor; b. 20 lbs.

#### TEXAS.

L. Stachelhausen, Selma. S. C. 7-22.

a. Not good; about 25 per cent; b. 50 lbs.

B. F. Carroll, Blooming Grove. 7-24.

a. Prospects good for August, for cotton; b. horsemint all plowed up, hence no more must honey near me.

J. E. Lay, Hallettsville. S. W. 7-20.

a. Bad; too wet in May and June; b. 20 lbs.

#### VERMONT.

A. E. Manum, Bristol. W. 7-22.

a. Poor; b. not over 8 lbs., and season ended.

F. M. Wright, Enosburgh. E. 7-25.

a. Very poor; b. no surplus as yet.

Howard J. Smith, Richford. N. C. 7-23.

a. Poor; b. 25.

J. E. Crane, Middlebury. W. 7-20.

a. Half an average; b. 20 lbs.

#### VIRGINIA.

J. W. Porter, Charlottesville. C. 5-24.

a. Fair average crop; b. can not report.

H. W. Bass, Front Royal. N. 7-25.

a. About two-fifths of an average crop; b. 20 lbs. comb.

#### WASHINGTON.

W. W. Malthy, Port Angeles. 7-25.

a. Medium; b. 50 lbs.

J. H. Goe, Mossy Rock. 7-24.

a. Good; b. 40 lbs., comb.

#### WEST VIRGINIA.

J. A. Buchanan, Holliday's Cove. N. 7-22.

a. Away below an average crop; b. 25 lbs.

Will Thatcher, Martinsburg. W. C. 7-21.

a. Good; b. 60 lbs.

Jno. C. Capehart, St. Albans. S. W. 7-20.

a. Of late years I am in the habit of expecting the bulk of it in November; b. I squeezed 40 lbs. from the clover yield.

M. A. Kelley, Milton. S. W. 7-21.

a. Good; b. 27 $\frac{1}{2}$  lbs.

#### WISCONSIN.

Frank McNay, Mauston. C. 7-25.

a. Very poor; b. 0.

J. C. Sayles, Hartford. S. E. 7-19.

a. Very poor; b. not more than 10 to 15 lbs.

S. I. Freeborn, Ithaca. S. W. 7-25.

a. Very poor; b. 20.

Joshua Bull, Seymour. E. 7-23.

a. Very poor for white honey; not more than half a crop; b. I have not yet removed any from the hives.

E. France, Platteville. S. W. 7-22.

a. Very poor; b. 4 $\frac{1}{2}$  lbs.

With very few exceptions, as we stated in our last issue, the prospects are poor, and the average yield per colony is exceedingly moderate. But as the reports were sent out a little early, as indicated in the circular letter above, it is not impossible that things will brighten up a little, even yet. In fact, as stated in the last issue, white clover seems to be hanging on in some localities, where it was expected that the yield from that source had entirely ceased. California looms up with a large crop of honey, and that means a good deal, for this State pro-

duces not a small percentage of all the honey produced in the United States. Colorado has one reporter, and he says, "Fair to good." Arizona, the State where alfalfa is produced, reports about 90 lbs. per colony. Minnesota does not seem to be uniform. In the east-central and eastern part of the State there is but very little honey; but in the central and west-central parts, the yield seems to have been good. Wisconsin, another usually good State, has also no honey of any account. Indiana, California, Arizona, Virginia, West Virginia, and Washington, report the prospects good. Almost all the rest of the States are reported poor.

If any one thinks GLEANINGS is puffing up the industry, and showing only the silver lining to the cloud, let him read the Reports Discouraging in the August 1st and present issues, and then take a glance at the Honey Statistics. As we said before, fruits will be rather scarce, and the bee-keeper has not fared any worse than many of those engaged in kindred industries.

#### A CHAPTER ON WASPS, ETC.

PROF. COOK TELLS US ALSO ABOUT LOCUSTS, KATYDIDS, ETC.

I HAVE just received a most beautiful wasp from H. H. Hillier, Pasadena, Cal. It is a deep rich blue, with red wings. It is a digger wasp. It digs a hole in the earth, swoops down on a tarantula or other victim, stings it with its murderous sting, then bears it away to its hole. It now places an egg in its victim, and buries it. The spider is not dead, but only paralyzed; so when the egg hatches, the young, or baby wasp, has not only fresh but living food on which to break its fast. Mr. K. says they call it the tarantula-hawk. In Texas a similar wasp is called tarantula-killer. Smaller species are common here and in Ohio. While these wasps sting with powerful effect, yet I do not suppose the effect of the sting is ever likely to be fatal. These are very quick, have very hard bodies, and rarely sting one if left undisturbed. This one is very large. I am glad to get it. I should like to get many California insects.

#### WASPS AND BUGS.

Mr. Edward J. Knebel, Spring Branch, Texas, asks if I will describe in GLEANINGS some wasps sent by him from Texas. These are paper making wasps. They look like our *Polistes Annularis*, so common in houses in late fall and early spring. Like all of this family—*Sespedæ*—they have a longitudinal fold or a way of doubling up their front wings when at rest. We often boast of our attainments, and sneer at insects; but these wasps have built their large paper nests of wood pulp for scores—may be hundreds of years, while we have just "caught on to that trick." Like the digger and all other wasps, these insects people their cells with other insects on which the larval wasps subsist. I have often seen wasps catch and kill currant-worms, tent-caterpillars, etc. Wasps do us much good in killing our noxious insects, and do no harm except in the use of their stings, and very seldom this unless provoked to it.

#### CALIFORNIA COW-KILLER.

I have received an ant-like insect from J. G. Gilstrap, Hanford, Tulare Co., Cal., which is covered with thick hair, which is of a rich carmine color.

The legs and antennæ are black. The insect is very pretty. Mr. G. says, "I suppose it is a spider." He adds further, "It is rumored that it is very poisonous. Please name it in GLEANINGS."

This is one of the cow-killers. I have one illustrated in "Bee-keepers' Guide," p. 427, Fig. 216. These belong to the family *Mutillidæ*, so called, I think, because neither males nor females have wings. They are said to have a powerful sting. Possibly this is why they have taken the name of cow-killers in the South, where they are quite common. They are closely related to the ants, which they resemble not a little. In the South they kill bees. This one is a little smaller than the one that is called a bee-killer, which I have received from several Southern States. Has Mr. G. ever known of this one killing bees? This insect is very handsome, I am very glad to get it.

The larger bees with light bands and large yellow hind legs, received from Jno. Longwood, Highland, Minn., are *Melissodes Pennsylvanica*. The hairy hind legs are used to carry pollen. These bees dig holes in the ground, and put in pollen and honey, may be, as they have long tongues, and lay their eggs in this food. Thus the brood matures in earthen instead of wax cells. These bees are very handsome; and though I had them in our collection before, I am glad to get them from Minnesota. I thank Mr. L. for them.

#### THE COMMON CICADA (*C. tibicen*).

I have received from Mr. K. F. Beach, Olean, N. Y., a specimen of our common cicada (*C. tibicen*), with the request that I name it through GLEANINGS. This fly is just the form and about the size of the seventeen-year cicada—often called, incorrectly, seventeen-year locust. This, however, has green veins to the wings instead of red. It is probable that the seventeen-year cicada exists so long as a larva, from the habit of burrowing deeply in the ground. A taste which would make such a home pleasing would place the insect below danger, but would delay development, as both warmth and food would be too scarce for rapid development. Our common cicada, *tibicen*, I presume lives nearer the surface, and so develops, presumably, in a year. The song (?) of the male cicada is very familiar. It is the long, shrill, high-pitched rattle-like whir, heard all through the day every few minutes in July and August. Except for its higher pitch, it is strikingly like the whir of the angry rattlesnake, as I have often noticed this summer, as our rattlesnakes and the cicadæ in the oaks, just out my window, were running opposition. It is not easy to find the cicadæ, even when we hear their song, as they usually stop their noise upon our approach. Yet the other day I found one so entranced with its own music that I approached, caught it, and yet it continued its song for some time after I had it secure in my grasp. The seventeen-year cicada often come forth from the earth in multitudes, and make all outdoors clamorous with its high-pitched notes. The only harm that comes from the cicadæ is in the unskillful pruning they do in egg-laying. They cut into fruit and forest trees to lay their eggs, and often do great harm. I have seen orchards that looked as though they might have been burned, so thick were the weathered leaves on the wounded twigs. As the eggs hatch, the larva falls to the ground, which it enters, and in its cold dark home feeds daintily on roots, may be, for near seventeen years. When nearly matured it changes to brown,



active pupa, which at last comes forth, crawls up some twig or tree, splits open on the back, and the beautiful mature cicada goes forth to enjoy its nuptials with song and merry-making.

Agricultural College, Aug. 6.

A. J. COOK.

### THE RATTLESNAKE THE EMBLEM OF A NATION.

SOME OF ITS PECULIARITIES; BY ONE WHO HAS  
SLAIN OVER 1100 OF THE REPTILES IN  
ONE SEASON.

I SEE in GLEANINGS of July 15 that Prof. Cook is delighted with his pet rattlesnakes, and wishes all of the readers of GLEANINGS could walk into his laboratory and take a peep at them. I have, perhaps, killed as many of these "varmints" as the average western man, having herded cattle in a very early day on the wide wild prairies of Central Illinois and Iowa. As my diary shows, I actually killed in one season 1100, having destroyed as many as 33 in one day. They were of the small prairie variety, but still they were poisonous, and would often bite the steers.

I wonder how many of the readers of GLEANINGS know that this reptile was at one time placed upon the flag of the nation. The great union flag of Great Britain was brought by the colonists to America; and when the thirteen colonies began to feel the pressure of British rule they placed upon their banner a rattlesnake, cut in thirteen pieces, representing the thirteen colonies, with the words, "Join or die." But when the thirteen colonies became more united in their purpose of resistance to British tyranny they placed upon their banner a large well-formed rattlesnake in the attitude of one about to strike, with these words: "Don't tread on me." The rattlesnake is truly an American "bird," found only on this continent; and how fitting the choice for an emblem! In many countries the serpent is considered as an emblem of wisdom, and, in some attitudes, of endless duration. Its eye is exceedingly bright, and without eyelids—an emblem of vigilance, and it never begins an attack; and it never surrenders, which is an emblem of magnanimity and courage. It never wounds even its enemies, till it generously gives them warning not to tread on it, which is emblematical of the spirit of the people who inhabit this country. It appears weak and defenseless; but its weapons are nevertheless formidable. Its poison is the necessary means for the digestion of its food, but certain destruction to its enemies, showing the power of American resources. Its thirteen rattles, the only part which increases in number, are distinct from each other, and yet so united that they can not be disconnected without breaking them to pieces, showing the impossibility of an American republic of the original thirteen without a union of States. A single rattle will give no sound alone; but the ringing of the thirteen together is sufficient to startle the boldest man alive. It is beautiful in youth, which increases with age. Its tongue is forked like the lightning, and its abode is among the impenetrable rocks.

This description has reference to the large mountain rattlesnake, which was known only to the Eastern people. They are many times larger in body. You can hear the sound of the rattling to a greater distance than the small Western prairie rattlesnake.

Perhaps when Prof. Cook gives the article he has promised he will tell us more about the little pets.

A GOOD MANY CRATES READY TO COME OFF.

My bees are doing fairly well. It has been almost too dry and cool a part of the time. Some late showers have started up the white clover afresh, and the bees are still at work. I have a good many crates just ready to come off. I have taken some new honey. I have had more trouble from robbers than ever before. I live near the big timber. I have thought the robbers came from there. I had two swarms come to me from there, I suppose.

Atwood, Ill., July 20.

J. W. C. GRAY.

## HEADS OF GRAIN

FROM DIFFERENT FIELDS.

THE DETROIT EXPOSITION.

The following is a copy of a little slip written by H. D. Cutting, and which we take pleasure in presenting to our subscribers:

I should like to call the attention of all bee-keepers to this fact: It being an extra poor season for honey, an extra exertion must be made to secure a good attendance of exhibitors.

The Exposition Company have granted every thing we have asked for—given us an extra space to show our products, the largest premium list ever offered in this country for this department, also an expert judge with a "world-wide reputation." If we do not make a good exhibit, and fill the space allotted to us, next year the list will be reduced. They have been very liberal with us, with the expectation that we are to make a large, fine, and attractive exhibit.

Now, fellow bee keepers, do not let this be a failure, but show the people that, in the face of a crop failure, we can and will sustain the good reputation already formed, and make this a fine and attractive exhibit. If you do find it impossible to be present, and have any thing pertaining to this department that you wished placed on exhibition, you can send it by express, charges prepaid, to H. D. Cutting, Superintendent of the Bee and Honey Department, Detroit, Mich. It will be delivered to me in the building, when it will receive good care, and be placed on exhibition. Also send me instructions what to do with articles at the close of the exhibit.

Mr. W. Z. Hutchinson, of the *Review*, has suggested that all bee-keepers intending to visit the Exposition, meet "just after the judging" on the first week, and visit the Exposition in a body. You will be received by a committee at the bee-keepers' headquarters, and shown over the buildings and grounds, taking in all objects of interest. Please be with us as visitors, if you can not come as exhibitors. Bee-keepers' day will be Friday, Aug. 29.

H. D. CUTTING.

We trust that the Detroit Exposition may not be lacking in a honey display, even if, as friend Cutting says, the season has been extra poor.

HOW BEES BRUSH THEIR EYES.

Mr. Root:—In watching my bees I have noticed that every one, when leaving the hive, rubs its fore legs over the head, and so on down over the horns, or feelers. The old ones will perhaps give only one brush over, but the young bees will stand and rub for a minute at a time, the drones also doing considerable in the same hive. I should like to know if any one can tell the reason for this, as it is evidently for some purpose, as the Creator never made any thing in vain. E. W. HOWES, M. D.

Chatham, N. Y., July 28, 1890.

We referred the matter to Prof. Cook, who replies:

E. W. Howes, M. D., wishes to know why all the bees rub their heads and antennæ with their fore legs as they come out of the hive before taking flight. It is to dust their eyes and antennæ, or "horns." Their eyes are for light, their antennæ for smell, and both must needs be clean. Hence the bees brush the eyes and dust the antennæ by use of the antennæ-cleaners. Dr. Howes can easily see that this is true by putting a bee or wasp on the window, and dropping some dust from the road, or fine chalk or flour, on the antennæ. He will see the bees use the curious antennæ-cleaners to clean the antennæ, and then the middle legs to clean the cleaners, in case it is a bee, or the jaws to do the same in case it is a wasp. The antennæ-cleaners on the front legs, described and beautifully illustrated in my book, are wonderful organs. A hollow, bearing a delicate fringe of hairs, and a duster with very fine membrane, together grasp and draw over the leg. A more beautiful and effective organ it is hard to find.

A. J. COOK.

Agricultural College, Mich.

#### A BIG TESTIMONIAL IN FAVOR OF THE NEW THICK TOP-BARS.

Well, Uncle Amos, the queens are doing well. One of them has proved to be an extra layer, but the other has had no chance on account of the large flow of basswood nectar, which is at this writing in full blast. It blossomed so the bees worked on some trees July 13, and it is coming in so fast that they do not stop to build comb in the sections, but cram the brood-combs full in some colonies, which is the case with one that I introduced one of the queens to July 13.

Well, I am one, perhaps, of the many who are trying the heavy top-bars, and the exact spacing I do by the use of the furniture-nails. I have 29 stocks so arranged, and am experimenting on 3 other styles and widths of top bars on 18 different stocks, and so far I am well pleased with heavy top-bars spaced  $\frac{3}{8}$ , or, rather, a space between frames  $\frac{3}{8}$  of an inch. I have just looked them over, and I do not find any signs of burr-combs except on two hives, and there is only a little on them. On some of my Simplicity hives with thin top-bars they have got the zinc honey-board plastered nearly full, and I tore it off and scraped off a *quart* of burr-combs. I like the slatted wood break-joint honey-board better than the zinc ones, but I am greatly in hopes that, with my new hive, I shall be able to discard them altogether. The heavy top bar that I speak of is  $\frac{3}{8}$  thick and  $\frac{3}{4}$  wide, and is used with my new chaff hive, which suits me better than any other hive I ever saw.

FRED C. SMITH.

Thanks for your valuable testimony. Our experience with the heavy bars has been so far exceedingly satisfactory. Did you notice, friend S., whether the colonies with *thick* top-bars stored *less* honey than the colonies with *thin* bars?

#### WHY HIVES SHOULD BE PAINTED; A GOOD ILLUSTRATION.

I have been waiting for some one to haul one of your contributors over the coals for asserting that paint does not protect wood (hives) from decay. You let him down easily by not noticing it editorially. Now, paint does protect wood by excluding moisture; and when white lead is used, the surface is hardened against the wearing effect of wind and rain. Over the old aqueduct bridge in George-

town, D. C., is a sign board over fifty years old. The old board seems never to have been painted. The bridge regulations are painted in large black letters. The face of this board (4 x 6) is so worn away by the action of the weather that the words seem to have been carved in relief, and a blind man could read by the sense of touch those raised letters which the black paint has preserved. The face of the board has left them at least a sixteenth of an inch high.

ARTHUR T. GOLDSBOROUGH.

Washington, D. C., May 28.

#### WHAT SORT OF PUMP IS BEST, FROM A SANITARY POINT OF VIEW?

Is a bucket pump, with buckets on that will hold a pint or more, better for the water in a cistern than the common chain pump with rubber buckets? The claim made for the former is, that the buckets carry air to the bottom of the cistern, and purify the water.

E. E. LAWSON.

Stanberry, Mo., Aug. 7.

Friend L., I do not think the kind of pump you describe has much, if any, advantage over the chain pump. The theory that carrying the air under the water makes the water more wholesome, came from the vender of a certain kind of pump; but I hardly believe it is supported by true science. Very likely the water of the cistern will be better where there is considerable agitation, as this will disturb the settlings and tend to keep them pumped out. We have had very fine cistern water during the past summer, that has been used all through the factory, in preference to any of the well-water, for drinking purposes. But this cistern water is drawn through a tin-lined lead pipe, the pipe being tinned both inside and outside; but in order to prevent settlings from getting in, the end of the pipe is turned up so as to take water a couple of feet above the bottom of the cistern. The cistern has, however, a chain pump also, out of doors. The chain pump goes lower down than the other, and is used often enough to keep the water agitated and "aerated," as the patent-pump man would term it.

#### A GOOD REPORT FOR THE NOVICE EXTRACTOR.

Seeing a notice in GLEANINGS, August 1, of the work done by T. H. Mills, of Cameron, Tex., with a Stanley extractor, I will state what I did for F. McNay, of Mauston, on August 10, 1889. With a Novice extractor I extracted 60 gallons of honey, hived eight swarms of bees, and did it all alone, and went seven miles to town before sundown.

Mauston, Wis., Aug. 6.

E. W. PROSSER.

Pretty well, friend P., only we should prefer to have the amount of honey stated in *pounds* rather than in *gallons*. If it is good thick honey, however, we can safely estimate 11 lbs. to the gallon. I wonder if you didn't leave things scattered around some that night.

#### THAT FRACAS IN OUR OWN APIARY; DOES IT PAY TO KEEP CROSS BEES?

Reading GLEANINGS for July 1, about a fracas with cross bees, in Our Own Apiary, raises the question with me as to whether it pays to keep black or hybrid bees at so great an expense of time, labor, and suffering from stings, though we have the courage to battle with them and the good fortune to survive their frequent attacks. As for me, I have



no time for all this labor and risk. Also, friend Root, how do you manage that queens are purely mated, having these black, cross, selfish bees in the apiary or vicinity with your Italians?

Mechanicstown, Md., July 11. S. P. RODDDY.

We were short of bees last spring, and accordingly purchased a few colonies of some neighboring farmers, a part of which were hybrid, and of a rather bad sort. How did we prevent the hybrid droles from mating with our young queens? Easily enough. The old hybrid queens were soon removed, and Alley traps were placed over the entrances to catch all undesirable drones. All this we have explained in GLEANINGS. But a few of the old ugly hybrid bees are with us yet. They can't do any other harm than to sting, and next year we won't be pestered with them. We would hardly take hybrids again as a gift for our purpose, though they are just as good for honey.

#### WHAT A BOY HAS HEARD AS A REMEDY FOR BEE-STINGS.

I have heard that, if a bee tries to sting you, and you hold your breath, it can not sting you. If this is true, it is a good discovery. I like bees and like to handle them; but sometimes they sit down too hard to please me. I like to read GLEANINGS, and some time I expect to raise bees.

Huron, Cal., July 19. ALBERT R. GILSTRAP.

Yes, we have heard this before. It is another relic of old-fogysm. The best way to prove or disprove such foolishness is to try it when bees are awful cross. Send the old fogy up here; and if he doesn't recant, it will be strange.

#### CAN BEES LIVE IN NORTHERN MICHIGAN?

Do you think bees would thrive here where it is not uncommon in winter for the mercury to go 15° below zero, and sometimes 25° to 36° below? It has been known to stand below zero continuously for nearly a week.

E. W. ALLEN.

Marquette, Mich., July 7.

Yes, bees will do well enough, we think. Perhaps some bee-keeper in the vicinity can inform our friend. The only trouble will be in wintering; but if you use the best methods of indoor, or even outdoor, you ought to succeed.

#### TOBACCO AS A BEE-FORAGE PLANT.

I feel rather timid in recommending you to try tobacco. In its manufactured state it is, of course, used to the injury of many, but in its original and beautiful form I know of but few, if any, plants superior, if one may judge from the vim and industry with which the bees frequent it from morning light to close of day, from one year's end to the other, winter and summer. We have a temperate climate here, scarcely any frost, and some of the General Grant Virginian kinds are now growing spontaneously (that is, without cultivation) about my poultry-yards and stock-yards, attaining the size of trees, almost, having stems three and four inches through, and flowering every day in the year.

C. T. WREN.

Mt. Hobson, Remuera, Auckland, N. Z., March 24.

#### BEEES FOR RHEUMATISM A SUCCESS.

A few months ago I was troubled with a very severe attack of rheumatism, affecting principally the left arm, and almost entirely incapacitating me

from work. After practicing upon myself for about two months, with the remedies usual in such cases, and getting no relief, I concluded to try the bee remedy, and commenced applying from one to two to the part affected, three times a day. The effect was so very beneficial, that, after the first day, I was enabled to resume my work upon my place, and after two weeks I was entirely cured. I used Italians hypodermically, making them do the work themselves by holding them with a small pair of forceps to the part selected for the operation. It is needless to say, that the bees seem to understand this practice thoroughly.

Villa Franca, Fla., July 27. J. V. HARRIS, M. D.

#### IMPOTENT QUEENS.

Mr. Root:—The queen that you sent that lays sterile eggs is not very exceptional. I have had many such. Even a microscopic examination shows no defect. The ovaries are plump, the spermatheca full, and all seemingly in proper condition. But the eggs are impotent. This is interesting as bearing on sterility in our higher animals. It is not only necessary that eggs should grow and pass from the ovaries, but the eggs must be potent. Thus, higher animals may pass the period of ovulation regularly, and yet be sterile. The eggs in this case are sterile, or impotent.

#### SAND BEES.

I have three more beautiful sand bees from S. H. Crowell, Rockford, Ill. These are *Melissodes Pennsylvanica*. They are much like drone bees in size and form. They are black, beautifully ringed with light yellow. The hind legs are so clothed with hair as to resemble a brush. This enables them to gather and carry pollen. They are mason bees, digging holes for cells in the earth. Here they store pollen, in which they place an egg or eggs. They do good work fertilizing flowers. As Mr. C. requests, I write this to GLEANINGS.

Agricultural College, Mich.

A. J. COOK.

## REPORTS DISCOURAGING.

#### POOREST SEASON FOR FRENCHVILLE, WIS.

Season for white honey is about over, and not one-tenth of a crop. So far this is the poorest season for bees, and bee-keepers too, in many years.

Frenchville, Wis., July 28.

GEO. RALL.

#### HONEY CROP A TOTAL FAILURE.

The honey crop is a total failure in this vicinity. It is doubtful whether the bees will gather enough to winter them. If there is a good fall crop they may pull through the winter without feeding.

Lavonia, Ga., July 26.

J. J. HARDY.

#### PROSPECT POOR.

The winter was severe, and the loss was about 40 per cent on account of dry and hot weather, with no dew. Bees gathered scarcely any thing from basswood. Up to date, July 10, only three swarms from 32 colonies. Fall prospects poor; in fact, it looks like a total failure.

GEO. W. BALDWIN.

Forest City, Mo., July 10.

#### A GOOD SUPPLY TRADE, BUT A FAILURE IN HONEY.

This has been my very best season in the supply trade. For a time I was three weeks behind with orders; and now to spoil it all, my customers will hardly get a pound of surplus honey to the colony,

as the season is almost a total failure, and very many of those who were so enthusiastic a month ago are disgusted with the whole business. This is the fourth year that the white clover and basswood have failed to secrete honey. A. B. HERMAN.

Burnett's Creek, Ind., July 25.

#### CROP WILL BE LIGHT.

Our crop of white honey here on the Mississippi bottom will be very light. Clover never promised any better, but we had one hot week the last of June, and the bees don't seem to get any honey from it since. Basswood is about done blooming. Bees get honey from it early in the morning, but very little comes in through the day.

Savanna, Ill., July 11.

JOHN HANDEL.

#### UTTER FAILURE OF THE HONEY CROP.

Bee-keepers in this vicinity report an utter failure of the honey crop. There are plenty of flowers, but there is no honey. We never had a better outlook for honey than we had in fruit and dandelion bloom. The bees began storing then, but they have been making only a living since then. There was an abundance of white clover here, but it yielded no honey; and those living along the timber reported no basswood honey. Bees are very strong, but they consume all the honey they gather. If fall bloom does not yield more honey than we have had so far, we shall have to feed our bees for winter; but I look for a better fall, as there is lots of buckwheat in this vicinity. Bees swarmed but very little here. The honey crop is reported better in the south part of the county, and swarming was better. O. D. NICHOLS.

Owasa, Ia., July 26.

## REPORTS ENCOURAGING.

#### BEST SEASON EVER EXPERIENCED IN MASSACHUSETTS.

This has been the best season for clover that I ever experienced. It is so dry now, however, that the bees are robbing, and cross as blazes. If we don't get rain soon, our buckwheat and fall honey will amount to nothing. ALLEN LATHAM.

Lancaster, Mass., July 24, 1890.

#### A BEGINNER'S SUCCESS.

One year ago last spring I had one swarm of bees given me. It swarmed three times, and the 20th of August they had no surplus honey, and last fall we took from them 256 lbs. of honey, most of it being in pound sections. The honey was very nice, and looked like white-clover honey, but it was made from horsemint. I now have 15 swarms of bees, so I begin to think I am a bee-keeper, though they have no surplus honey now. CARRIE KESLER.

St. Anne, Ill., July 30, 1890.

#### A GOOD YIELD FROM BASSWOOD AND CLOVER.

In this locality the bees have had plenty of clover and basswood to work upon, and I have hives that have already, no doubt, 100 lbs. of clover and basswood honey stored in 1-lb. boxes. But the increase with me has been very small. I had 7 old colonies, all strong, I placed the supers on early, and have, for the number of swarms, lots of honey, but only one new swarm. This may be peculiar to my bees, and the way I have dealt with them, as my neighbors have had, some of them, quite an increase.

The honey is superb, and clover and basswood not gone yet either.

MILTON L. BISSELL.

Gerry, N. Y., July 28, 1890.

## OUR QUESTION-BOX.

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 166—1. Can I, by feeding, raise as good queens before the general swarming season as during that time? 2. Can as good queens be raised after the swarming season?

1. 2. Yes.

Ohio. N. W.

A. B. MASON.

Yes, every time.

Ohio. S. W.

C. F. MUTH.

1, 2. Yes, if the colony is strong.

Illinois. N. W.

DADANT & SON.

1. Doubtful. 2. Still more doubtful.

Ohio. N. W.

E. E. HASTY.

1. Yes, I think so. 2. I say yes.

Ohio. N. W.

H. R. BOARDMAN.

Theoretically, no to both. Practically, yes to both.

Michigan. C.

A. J. COOK.

I should slightly prefer queens reared in swarming time to those reared either before or after.

California. S. W.

R. WILKIN.

1. I do not think you can, quite. 2. Yes, they can or can not be, according to circumstances.

Michigan. C.

JAMES HEDDON.

1. Yes, but attend closely to the feeding; feed regularly every day, and have the hive or nucleus box full of bees. 2. Yes, by the above plan.

Vermont. N. W.

A. E. MANUM.

Some of our best queens have been reared either before or after swarming; but as a rule they are not quite as uniform.

New York. C.

P. H. ELWOOD.

Yes, to both, if you put the colony rearing queens in the same or a similar condition to what they enjoy during the swarming season.

New York. C.

G. M. DOOLITTLE.

1. Yes, if your colonies are strong enough and weather is warm enough. 2. Yes. If the conditions are favorable, just as good queens can be raised in August, or even September, as earlier.

Illinois. N. C.

J. A. GREEN.

I don't know. I have never raised queens after the middle of July; but having so many young queens to clip every spring, I know that the bees do supersede some queens after the middle of July. As for the goodness of those late queens, I think they are all right.

Wisconsin. S. W.

E. FRANCE.

Yes, select your strongest and best colonies, and by regular and systematic feeding stimulate them to the swarming-point. The best queens we have ever had were raised that way. 2. I can not speak



positively; but reasoning from general principles, I should say not.

Illinois.

MRS. L. HARRISON.

I doubt whether as good queens can be raised either before or after as during the swarming season. Still, if the bees are fed bountifully, and the weather is favorable, it is possible that good queens can be raised any time.

Illinois. N.

C. C. MILLER.

I think not. Weather is too changeable, and I doubt whether we can supply to the bees, when confined to the hive, food for queen-rearing that will equal that which they are able to provide when weather is warm, and they are flying freely. 2. Yes, with good weather and plenty of honey coming in. What is to hinder?

Wisconsin. S. W.

S. I. FREEBORN.

Just as good and just as prolific queens as I ever had in my yard have been raised at both extremes of the season. Liberal feeding and favorable weather are needed. This season, 1890, with us has been so cold that queens could not be raised to advantage. Hot weather and a good flow of honey, or feed, and care on the part of the apiarist, is all that is necessary to raise good queens.

New York. E.

RAMBLER.

I am glad to see so many of the opinion that just as good queens can be raised outside of the swarming season, and I am glad, too, to see so many suggest that all the conditions must be complied with. The finest queens I ever reared in my life, and the most satisfactory work in building up colonies I ever did, was during August and September, when we were compelled to keep things moving by daily feeding. Of course, bees got pollen plentifully from corn and other sources; but they obtained so little honey that brood-rearing would have stopped almost entirely had it not been for the daily rations of sugar syrup. Nature is good; but the keen, energetic, and enthusiastic *student* of nature can make nature boom in a way she rarely if ever does boom without man's assistance.

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## OUR OWN APIARY.

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CONDUCTED BY ERNEST R. ROOT.

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### STINGLESS BEES AT THE HOME OF THE HONEY-BEES.

Two or three weeks ago we were notified that a box of bees was at the express office. As they had come from Cuba, we supposed, of course, they were all dead, and were questioning whether we should accept them. We pried off the cover, and on peering through the perforated tin we saw, not a lot of dead bees, but a few dozen little insects that looked very much like what we call "sweat bees." Surmising that they might be the stingless bees, we accepted them at once. Mr. Spafford and I did not know what to do with the things. I was a little afraid that they might not be able to defend themselves against the ordinary Italians; and although they were stingless, I had read somewhere that they could bite fearfully hard. Mr. Spafford was requested to

fix them up and make the entrance so narrow that the ordinary bees could not pass through. In the mean time the following letter came to hand, which explains itself:

*Mr. Root:*—With this I send the stingless bees that I wrote you about. I hope they will reach you in good condition, as they are queer little fellows. Some time ago we had ten days of very rainy weather, and the top of the box that they are in had a large crack, and let the water into the box. When the weather was good I went out to see my bees, and I noticed that these little fellows were bringing water up to the door, each one two drops at a time; and as fast as one would back into the hole there would be another. I took off the top, and, to my surprise, found it about half full of water. They were pumping it out as fast as they could. There is not any thing known about these bees. No one has ever seen them swarm. These have been in this box ten years. You will see that at first it was a one-story; but as they filled that up to give them more room, the other piece was put on. I hope you will be able to enlighten us about them.

Havana, Cuba, July 16.

JAMES WARNER.

Yes, indeed, they are "queer little fellows." We caught a few and found that they could not be made to sting, and for the very good reason that they *could* not use a weapon that they did not have. The facts related by friend Warner are interesting. Just think of those little fellows carrying the water out, one by one, in little bits of loads from the bottom of their box! When the box arrived I noticed that it was a little damp inside, and this was doubtless because of it. No, friend Warner, there is not very much known about these bees. In some of our back numbers, two or three subscribers have mentioned seeing them in Mexico and elsewhere. I have been vainly looking over the indexes in our back volumes, but I fail just at the moment to find any thing regarding them. I have, however, been watching them very closely.

I will say to our readers, that these bees are about two-thirds the size of the ordinary Italian bee; and as I said at the outset, they look very much like our sweat bees of the North. On the whole they are rather pretty and sprightly, and exceedingly quick on the wing. What they lack in a sting is made up in powerful mandibles, or jaws; and I amused myself considerably by poking long timothy straws into their entrances, to see the little fellows get hold of the grass and fairly bite it in two; and when their jaws went together I could hear them snap. I wanted to put my finger into the hole and feel them bite, but I could hardly scrape up courage enough. Finally when a friend came around I called him up to the hive and told him we had some stingless bees, and suggested the propriety of putting his finger in at the entrance, to see what they would do. Nothing daunted he did so, but they seemed to think there was no use wasting their strength on such a big object, and simply backed into their hole and allowed his finger to remain unmolested. After assuring myself that they would not hurt *him*, I tried it. Very soon some of our Italians began to buzz around, because the box had a strong odor of Southern honey. While

watching I noticed a big fly come up and peek in at the entrance. He had no sooner done so than one of the little fellows jumped out like an arrow, and Mr. Fly absented himself, and that right speedily. I took up an Italian, disabled him, and put him in at the entrance. The little stingless fellows seemed to recognize that he was crippled, and so they simply pushed him out, as they did others that I put in in a similar condition, for I could not get a bee not crippled to even smell at the entrance. One day, while I was chancing to go by, I saw an Italian down in front of the hive. One of the stingless bees was on its back, and with its powerful mandibles was nipping away at the little cord which connects the abdomen with the thorax. I did not see him bite it in two, but he gave it such severe pinches that the bee from Italy finally gave up struggling, and very shortly afterward died. Whether this is a trick of the stingless bees or not, I am not able to say. If so, it is exceedingly cute; and it is something that I wish our Southern subscribers, or those who are favorably situated, would report upon. Be that as it may, we have not been at all afraid that any thing would rob them. They seem fully able to hold their own.

#### WHY NOT PUT THEM ON MOVABLE COMBS ?

Later in the day, after they were received, I told Neighbor H. that we had just come in possession of some stingless bees. He asked me a number of questions, but I could not give him any thing very definite then.

"Why don't you transfer them," he said, "and put them on movable frames?"

"Come with me and I will show you why we don't."

"Why," said he, "they build their nests about like bumble-bees."

"Yes, only more so," I replied.

Their honey-cells are about the size of walnuts, and very much the same shape. They seemed to be in a jumbled-up mass in the center of the hive. Clear down in the center, through a slight opening, I noticed that they had brood-cells about the size of peas, very much in the same mixed-up condition. Their honey-cells will hold perhaps a couple of ounces of honey.

#### ARE THEY OF ANY PRACTICAL UTILITY ?

Although I have been watching to see whether they bring in honey, I have not yet been able to discover that they do. On the contrary, scarcely a bee emerges from the entrance. There can not be more than four or five dozen bees in the whole colony. It is true, we have not been having honey coming in to any extent; but on the day they came, and two or three days after, the Italians were gathering quite a little honey. It would seem that they have gathered all that they think they will need in their southern home, Cuba; and as their numbers are comparatively small, there is no immediate danger of their starving. I am sorry that all our readers can not see them, because they are really interesting if not really serviceable to man.

#### THE DIBBERN BEE-ESCAPE.

Our later experiments with the star-shaped horizontal escape were not very satisfac-

tory. There were too many openings, and the consequence was that the bees would find it and get back through. Still another trouble, the openings were too small, and drones and workers would clog the thing up and shut off the openings altogether. Mr. D. and myself have been having some correspondence back and forth. The result was, he sent me an escape that had only one opening. It is like what we originally illustrated on page 5, 1890, being pear-shaped. The openings in this were much larger, and I am pleased to say that so far it seems to be a success in every way. It will rid an extracting super of bees in short order. It does not clog up, and so far promises to be a success. The first time I put it on the hive I made a mistake and put it on upside down. The result was, that almost all the bees abandoned the brood below and went up into the extracting super above. A few hours afterward we turned it the other side up; and when we came to examine afterward, we found scarcely a bee in the super. I hope that Bro. Doolittle will try one of these later ones.

#### NOTES OF TRAVEL AMONG YORK STATE BEE-KEEPERS.

FROM MEDINA TO BORODINO.

I start to-day, Aug. 6, on my trip among the bee-keepers of the Eastern States. I take the train to-night, and go as far as Syracuse, when I expect to get off and make the rest of my trip through York State on the Victor wheel. I may be very sick of wheeling or bad roads. If so, I shall seek the aid of the locomotive; but it is a fair average for bicyclers to make about 50 miles a day, with reasonable stops, on fair roads. Day before yesterday morning, before breakfast, I took a run of twenty miles in two hours and ten minutes. I enjoyed my ride exceedingly; and after taking a refreshing drink of new milk, and after eating a little cracked wheat, I felt ready to take another run. This distance was made over somewhat hilly country. I say this, that those of our readers who are unfamiliar with what may be done with the high-grade bicycles will not conclude that I am rather foolish in undertaking what may seem to them a wild and impracticable scheme. One of our employes, Mr. Jacob Borger, traveled last summer 400 miles; and after finishing the last mile he seemed to be as hale and hearty as when he started out. So much for the improvements that have been made in cycling within the last seven or eight years. I hope it won't rain. If it does, there are some bee-keepers I may not be able to call upon.

Wednesday, 6th.—Here I am waiting for the train at Medina, rigged out in a bicycle suit; i. e., a blouse, black shirt and tie, with short knee-breeches, black stockings, and low cloth shoes. I wonder if it is undignified to visit bee-keepers in such a habit. No, I am sure it is not. For cycling I need a light and cool suit, and trousers without any flopping edges to catch in the spokes of the wheel or pedals. Besides, I have



strapped to the machine an ordinary suit of clothes for Sundays, and—yes, there is the Kodak under the seat. There goes the whistle, and the train is here. Jacob, who traveled 400 miles last summer through Michigan and Ohio, is ready to help me get the wheel on the train, for most companies won't check bicycles. There, the train is moving, and I scramble for the car-steps. Father gives me a paternal grasp of the hand, and looks a little worried. Mother remarked at the table that she was afraid that I would overdo on the bicycle; or, from the frequent change of drinking-water, become sick. Perhaps father is thinking of the same thing. I will be very careful.

I am in Cleveland now, and my bicycle has been checked as far as Buffalo, on the Lake Shore. The agent says he doesn't know whether the N. Y. C. will or not from Buffalo to Syracuse. I get a sleeping-car ticket, and then delight (?) myself with the thought of how nice it will be to get up from the sleeper a little after midnight to have my wheel re-checked or something else.

I don't sleep very well, for fear the sleeping-car porter will forget to wake me up at the proper time. I yawn and stretch, and think how nice (?) it will be to make a bicycle trip from Syracuse among bee-keepers, with my wheel in Buffalo. The weary hours wear by, and finally, by squinting at my watch by the dim light, I guess it is about time to get up. I am all dressed when the porter punches and says, "Hurry up and get up, boss, for we're near Buffalo." The train has no sooner stopped than I glance at the name of the car I am on, and then run forward to the baggage-car. The train waits but a few minutes, and the baggage-man says the wheel can't be taken if there is lots of baggage. I hang around and parley with him while I try to keep watch of my sleeper, which I see is switching on to another track. Finally the railroad official asks for the check on the bicycle, which had been put on by the Lake Shore Co. Oh dear! oh dear! I can't find it! Yes, here it is. I remembered then that Jacob said, "If the agent is 'obstreperous,' offer him a quarter." I did so, and then handed him another quarter to take good care of it and not bang it around. The baggage-man is very obliging. His face shows that there is *plenty* of room in the car, and that he will see that it is safely delivered in Syracuse. The other baggage-man called out, "You didn't give me no quarters, and I brought it to Buffalo." "Yes," I say, "but your company checked it." I have no time to settle with another man, for my sleeper is—where? I am on the other horn of the dilemma; viz., a bicycle in Syracuse, but the rider still in Buffalo. I race up and down that immense depot, looking for a sleeper with the right name. Over there is one just going out on the end of a long train. Yes, it is the right one. In a few minutes I am asleep, because both horns of the dilemma are out of the way.

*Thursday, 7th.*—I am in Syracuse on my bicycle, both of us unharmed by the contingency of the night before. The roads and

scenery are beautiful. The wheel makes not the slightest noise; and if ever I felt enchanted, it is on this bright cool morning, flying, as it were, to Skaneateles, 25 miles distant.

### 13 MILES OUT.

Oh dear! There's a hill a mile long, and a steep one; and, worse than all, it's stony and rough. I dismount and push up hill. I don't feel very much "enchanted" now. The sun is hot, and I am sticky with sweat, and the exhilaration of "flying" is well nigh spent. I am on top of the hill now, and am spinning through the country. It's lots of fun to cycle.

### AT SKANEATELES.

I have gone 25 miles in a little over three hours. I am not fatigued. The beautiful Skaneateles Lake is spread before me. The air is delightfully fresh after a ride. The water at the dock is as clear as crystal, and I can see good-sized fish in the water 12 feet deep. A beautiful little steamer will leave soon, and I board it for Borodino, the home of G. M. Doolittle. On the right are pleasure-resorts on the rising shores; over to the left is Borodino. It looks as if it might be a pretty place. It's too dark now, or I would take a photograph with the Kodak.

ERNEST.

## TOBACCO COLUMN.

### THE INFLUENCE OF THE TOBACCO COLUMN IN THE FAMILY.

I notice in GLEANINGS that you give a smoker to any person who stops using tobacco. I have stopped, and I thought I would ask you to send me one. I agree to pay you 75 cents for it should I again commence. My father is a subscriber to GLEANINGS. He has about 20 colonies of bees, and a smoker would be a welcome present.

Waverly, Neb., June 20. CHAS. D. GILLHAM.

I like your efforts to get people to quit using tobacco. After seeing your offer to give a smoker if any one would quit using tobacco, I have made up my mind to quit using it in any shape; and if I ever break my pledge I will send you \$1.00 to pay for it.

Darien, N. Y., July 1. F. L. WOTTON.

### PLEDGES NEVER TO USE THE WEED AGAIN.

Mr. Virgil J. Seymour, who is a man of 60 years, pledges himself never to use tobacco in any form. Please send him a smoker; and if he uses the weed again he pledges himself to pay for the smoker.

Nunica, Mich., July 3. MRS. E. C. REID.

### ONE WHO HAS USED THE WEED 20 YEARS, AND QUILTS.

Having taken more interest each time I have read your Tobacco Column, I have made up my mind to give up the use of tobacco. I have used the weed, in smoking only, for the last 20 years, and will pay you for the smoker if I touch it again.

Sydney, Australia, June 3. N. LEROY TRACY.

I have quit the use of tobacco, and I promise to pay for the smoker if I ever use it again.

Camden, Mich. FRANK KUNKLE.



## SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

That art on which a thousand millions of men are dependent for their sustenance, and two hundred millions of men expend their daily toil, must be the most important of all—the parent and precursor of all other arts. In every country, then, and at every period, the investigation of the principles on which the rational practice of this art is founded ought to have commanded the principal attention of the greatest minds.

JAMES F. W. JOHNSTON.

### QUITTING THE BEE-BUSINESS AND GOING INTO GARDENING.

A FEW days ago notice was received from a postmaster somewhere away down in Texas, saying we need not send GLEANINGS any more to a certain bee-friend at his office. I think that the postmaster said that this friend had gone into other business, but I don't quite remember. I do remember this, however, that the postmaster, for some reason or other, inclosed a photograph, and a copy of this photograph we submit to our readers.

legend inscribed, "First Credit Foncier Bee-hive." If 12 onions weigh 18 lbs., these white onions weigh  $1\frac{1}{2}$  lbs. or more. In our market such onions would bring 10 cents per lb. in July, and we have been selling them at that price for nearly a month past. Ours are the White Victoria. We sowed the seed in the greenhouse, and planted the onions in the open ground as soon as the frost was out of the ground so it could be worked readily. Two rows only 150 feet long gave us six bushels of these great onions. As six potatoes weigh 6 lbs., they average a pound apiece. During the month of July such potatoes would have brought 4 cents per lb., or perhaps nice specimens like the above would have brought a nickel apiece. With us, carrots are slow sale; but perhaps we might have got 1 cent per lb. for them. Now, if our friend has as good a market as we have, he perhaps is doing a fine thing in gardening. It should be remembered, however, that these prices are to be obtained only by carrying the vegetables fresh from



### GIVING UP BEE CULTURE AND GOING INTO GARDENING; BEETS, ONIONS, POTATOES, AND CARROTS.

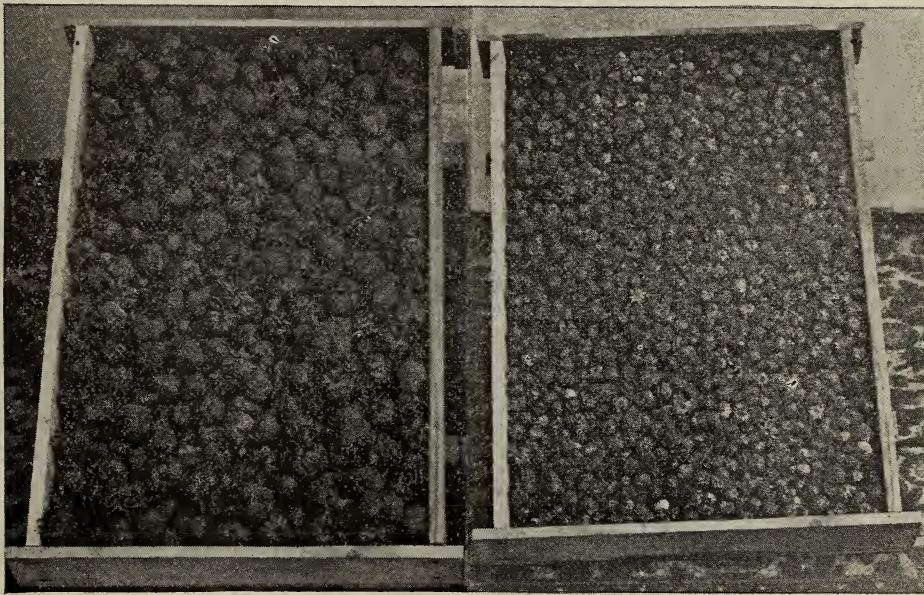
You will notice that all these vegetables are piled up against a bee-hive. You can not get much of a glimpse of the hive on account of the vegetables; but by the way the cover is cleated we infer that our friend has read the journals and kept up with the times. Right under the cover we find the

the ground right to the people's homes. Our land is inside of the corporation of a town of 2000 inhabitants. I have told you how we get our good prices. Most of you know that green corn is very much nicer when taken directly from the garden right to the kitchen stove; therefore one of our boys gets up



at five o'clock and gathers the green corn for the wagon that starts out at six. People have found out that *our* corn is just from the stalks, and they willingly pay us 12 cents a dozen, even for small ears of early corn. Large onions, large potatoes, nice fresh corn, and other things to match, bring good prices. May I suggest to our friend, however, that if I were in his place I should not be in haste to abandon the bee-business. Don't make your hives into kindling-wood just yet, as you see our friend doing on another page. Take good care of them, even if they don't pay Now. Don't buy any new traps or fixtures. In fact, don't pay out any more money until there is a better prospect of some money coming in. Of course, I wouldn't let the bees starve. Feed them during poor seasons when they may be likely to be out of stores, and keep them in reserve. When the onions and potatoes and carrots do not pay very well, just as likely as not bees will pay tiptop.

down to one or two kinds, instead of the great string of varieties we find in most catalogues. Let us take wax beans for instance. Wardwell's kidney wax beans, at least in our locality, are in every respect superior to any thing else in the way of wax beans. They are larger, and so free from rust that you will not find a specked pod in a whole bushel—absolutely stringless, and more productive than any other bean we have ever raised. To-day I picked 16 great beautiful pods, as handsome as wax work, off from one beanstalk. This is the product of a plant from a bean dropped when we were planting beets. It is a great relief to us to have only this one kind. We have for weeks been getting 50 cents a peck for them, and they are going off now by the bushel, at 30 cents a peck. What is the use of so many varieties? We are proposing to cut our seed catalogue for 1891 down to fewer varieties than ever before; but in order to do this intelligently, we are testing



THE REASON WHY FRIEND TERRY GOT \$1.00 A BUSHEL FOR HIS STRAWBERRIES WHEN OTHER FOLKS COULD NOT GET \$2.00.

The picture above, which is from a photograph, illustrates the truth in our heading. Friend Terry had pictures of drawers of different kinds of his berries made for the strawberry-book; and while doing it, the idea suggested itself of taking a drawer from the stock in front of one of the groceries, and putting it side by side with his own. Although the picture is not a very good one, it tells the story. On page 502 I gave you an illustration of the way in which his berries sell while the market is glutted with the common kinds.

#### RAISING FEWER KINDS OF VEGETABLES.

It is a very great relief to me, and doubtless will be to many of the friends, to come

almost every variety offered. Just think what a relief it will be to have one kind of tomatoes, one kind of wax beans, two kinds of lettuce, three kinds of cabbages, two kinds of corn, two kinds of cucumbers, two kinds of muskmelons, same of watermelons, two kinds of onions, three kinds of peas, three kinds of radish, two kinds of squash, two kinds of turnips. I do not know that we shall be able to cut down quite as close as the above, but we are planning to come pretty near it. There may be special circumstances requiring different varieties for different localities; but perhaps a bright, wide-awake seedsman in each different locality can help this matter to some extent.



## OUR HOMES.

But he said, Nay; lest while ye gather up the tares ye root up also the wheat with them.—MATT. 13: 29.

A FEW days ago I went up into our swamp garden. Owing to the cares of building, and other cares combined, I had not been up there for some time. But as the onions had been thoroughly weeded only a short time before that, I concluded that nothing could be suffering *very* much. To my astonishment, however, the whole piece of ground was literally matted with great plants of purslain. One would wonder how one little root could produce so great an amount of foliage, and I began to conclude that purslain must be a sort of air-plant; that is, it gets largely of its sustenance from the air and rain as well as from the medium of the root. The onions were making a splendid growth, but a great many of them were getting badly choked. I like to pull out purslain, because we get such a great amount of weeds by pulling up only one very small root. These roots were branching, however, a great deal like the tops, and the rich black soil was so loose that, when the weeds came up, out came with them several nice onions. The onions were of the new Victoria, that I have told you about, and they came up so white and beautiful that it really seemed too bad. But, what was to be done? That purslain must all come out of the swamp *before night*. I called the hands and instructed them to hold the onions down very carefully while they pulled the weeds out. By using care and patience the onions would be harmed but very little. But if one went at it with a rush, and just scraped the "pusley" up by the armsful, the onion-patch would be almost ruined. While deciding what to do, the text at the head of this lesson came to my mind. "Oh how much need there is of careful people in this world—of careful boys and girls! How I do love them! In order to be careful, one needs to have a love in his heart for his work. Somebody who is enthusiastic in gardening, and loves to see the onions grow, would probably, without instruction, get the weeds out without making mischief. And so it is, dear friends, in weeding out the sin and evil that are to be found in this world—yes, in these daily lives of ours. I am inclined to think that most of those who read these pages are called upon daily, perhaps hourly, to instruct others, to rebuke and to reprove sin, and very likely to take to task those who have been remiss in duty. Oh what a glorious thing it is to have the spirit of Christ in our hearts—to have the grace of God uppermost when we undertake to right wrongs!

Let me give you some samples in daily business. There are certain things that greatly annoy and vex our clerks here in the office. Yes, and these things also annoy and vex the great world at large, more or less, also. Perhaps no one thing occasions more vexation here than to have people order bulky or heavy goods by express, and then refuse to take them when they get to

destination. I have told you before that, in order to facilitate rapid transit, we obligate ourselves to pay every bill of express charges on every thing we send out—that is, where the consignee *refuses* to pay; and our clerks have had so many trials and losses in this line that perhaps they are almost *too* ready to stand up for our rights. If one even *thoughtlessly* orders something by express that ought to go by freight, if he is not a responsible man it will, of course, be like any other transaction—he can not be made to pay for what he has ordered unless he chooses to. If the goods are refused, in due time the express company notifies us of the fact, and asks for a disposition, and presents a bill of charges. Now, if the man who orders the goods would write and tell us that he had refused them because the charges were more than he expected, it would make the matter better. But usually he refuses to pay the charges, and there drops it. We write and write; and when we can get no answer we ask the postmaster about him; then perhaps the commercial agencies hunt him up to see whether he is responsible. If the amount is considerable, an attorney sometimes needs to be employed in the case.

What has all this to do with the Bible text? you ask. Why, this much: In these days of Endeavor societies, young people's weekly prayer-meetings and revival times, it often happens that the one who ordered the goods is a Christian—perhaps a young convert; and I hardly need tell you that nothing quenches the spirit of Christ in the heart of a young convert like a quarrel—perhaps a lawsuit. Where one has *fairly started out* on the road from earth to heaven, something of this kind may cause him to settle back and give it all up. Now, then, how shall we take him to task for putting us to the trouble and sometimes large expense by his own thoughtlessness? Our usual way is to wait 30 days, or until the express company notifies us that the goods are lying at destination, uncalled for. Then we write the one who made the order, asking him why he refuses the goods, explaining the circumstances. If he still refuses to pay the charges after we have traced them up to see that they are correct, we then tell him that we hold his order in plain black and white, with his signature at the bottom, and that we shall have to *hold him* to his contract if he is worth enough to be responsible. Now, this is right and proper. As a rule, it does the young Christian, or *anybody else*, good, to hold him to his contracts. One can not be a Christian, nor even a fair business man, and repudiate his promises made in plain black and white. But the trouble with us here is, that we are in too much haste to take it for granted that somebody means to beat us out of our money. Then we go to work straightening him up, as I went to work pulling the purslain out of the onions. Our friend is made angry, and becomes soured toward us and toward the express companies also. If he is starting out to be a Christian, he may be soured toward Christ Jesus, and may be lost, and never make another start. Think of comparing



for a moment the loss of a few cents, or even a few dollars, to the loss of a soul!

We were recently notified by an express agent in Colorado that a package with a considerable amount of expressage on it was refused. We accordingly wrote as follows to the one who ordered the goods:

*E. M. Beckwith,—*

*Dear Sir:*—We understand from your agent at Rye, Colorado, that the package we shipped you June 23 is refused by you on account of excessive charges. You should have acquainted yourself with the expense of shipping before making the order. We filled the order just as you gave it; and in order to have express shipments forwarded promptly, we have to guarantee charges; and if you do not pay them, it will come back on to us, and we in turn will have to get it out of you some way, if possible, if you are worth it. You might just as well save all this trouble by accepting the package and paying the charges, and learn a useful lesson by which you can profit in the future.

It seems, however, that the express company had been hasty as well as ourselves. In due time comes the following letter:

*Mr. Root:*—In your understanding that I refused to pay the charges on your express packages, you are not correct. I never refused to pay the charges, but simply said that they were excessive. The package lay in the office during my confinement by sickness, some two weeks, but I sent the money to the agent before I was able to go for the packages. I had Mrs. Ellwell, of Pueblo, send last spring, a year ago, for your hives and fixings, which I am using. But your fear that you can not make the charges out of me will prevent me hereafter from getting my friends to patronize you, lest their deal with you be no better than mine.

Rye, Col., July 30. E. M. BECKWITH, M. D.

You will see from the above that our friend did not refuse to take the goods; and, furthermore, that he has been for some years a friend of GLEANINGS, and has induced different individuals to send orders to us. No wonder he felt provoked when he received such a sharp letter as ours, simply because sickness prevented him from going to the express office. Do you not see how much better a mild letter of inquiry would have been in the first place?

You will notice that the letter opens up with "Dear Sir." Most of our correspondence, as you may have observed, commences with "Friend." But as we were vexed because the goods were refused, as we had been told, I presume the "Dear Sir" accorded more with our feelings. Looking back at the transaction now, it is very easy to see how much better something like the following would have been:

*Friend Beckwith:*—We are told by the express agent at your place that you have refused the package of June 23, on account of excessive charges. Perhaps you are not aware that we shall have to pay these charges if you do not. Of course, we do not know you; but we can hardly believe that you would willingly let the whole burden of this expense fall on us when we simply did exactly as you directed us to do. Will you not please let us hear from you at once?

Now, if such a letter as the above would not bring a courteous and gentlemanly answer, then it would have been time enough to suggest to him that he was legally responsible—that is, if he was a responsible man—for the consequences of his blunder if it was a blunder.

A little incident in the papers a few days ago read something like this:

A little girl propounded a question to her mother.

"Mother, which do you think is the worse—stealing, or telling lies?"

Her mother was somewhat puzzled, and asked her little daughter what she thought about it. She replied something like this:

"Why, I rather think that telling lies is worse than stealing; because, you know, if you steal any thing you can carry it back or pay for it; but if you tell a lie it just stays there for ever."

Now, my friends, there is a sad moral to the wonderful truth expressed by the little girl. We can atone for the loss of property by an apology; but when we hastily give way to the temptation to speak harsh or unkind words—words that cut and sting—it is a pretty hard matter to take them back. The express company thought it very likely that our friend refused the goods because of the excessive charges; and we, in a like manner, took it for granted that we had got to pay the tremendous express charges this long distance, and then get them home the best we could. "Is not easily provoked; thinketh no evil." What a grand little text this is, in view of matters like the above! Below is our letter of apology, but we feel that it will hardly heal up the wound we unwittingly gave to a friend of ours:

*Friend Beckwith:*—We beg pardon for having worded our letter quite so strongly. We have had quite a little trouble recently with parties refusing express shipments because they thought the charges too high; and from the way your agent stated the matter, we thought you presented a case of the same kind. We are glad to know that in this we were mistaken, and beg your pardon for having accused you falsely. We trust you will not cherish any ill will toward us because of this.

Another productive cause of trouble is returning goods without first writing to us and asking what disposition to make of them in case they are not wanted. It is very expensive shipping goods long distances, either by express or freight; and our trade is scattered so thoroughly that we can almost always order, to somebody near by, a thing that is not wanted, and thus save losses; whereas if the goods are sent back here, we are obliged to pay transportation two ways if the mistake is ours. If the mistake is our customer's, *he* is needlessly out of pocket; and I do not feel a bit better to see somebody else lose money than I do if I lose it myself. May be that is a pretty strong statement, but I *hope* it is true. Sometimes when I am vexed or provoked I am tempted to say, "It teaches them a good lesson;" or, "Perhaps it will help them to remember next time." But I always feel bad to see anybody lose his hard-earned money. I know what it is, dear friends, to work hard; and I am willing to work hard, but I do want a proper compensation for my labor. When I work hard and get nothing for it, it vexes me; and when anybody else works hard and gets nothing for it, it vexes me just as much, I am sure. And when somebody is so bad and wicked that he will, *without scruple*, take another's hard earnings without recompense, I am tempted to get into a fighting mood. At such times I might make haste to pull out the tares, and root out, also, good wheat. Well, in our price list we very emphatically request that noth-

ing be returned before first writing for instructions in regard to it. When you get something that does not please you, the proper thing to do is to write and say so, telling the sender the goods are *subject to his order*, and asking for directions for disposal. Now, please, friends, bear this in mind: If you decline to receive the goods, they are not *yours*; and if *not yours*, you have no business to send them *anywhere*. Just think of taking the liberty of sending goods that do not belong to you, without authority! Even an *express* agent has no right to return goods until he has instructions so to do from the owner. If he does, he is responsible for all charges. This we have settled by actual test; therefore please remember this, that, when you receive something that is not up to contract, or that, for some reason or other, you do not want, or did not order, neither you nor your express agent has any right *whatever*, nor any *authority* whatever, for sending the goods anywhere. Write to the real owner of the property in question, and ask him his pleasure in regard to it. If he does not reply, and the things still remain on your hands, you can, if you choose, make out a bill for storage and care for them. But *until* he does reply, they are *his* property intrusted to *your* care. You may leave them at the railroad depot or at the express office, if you choose, and while there the owner must pay for storage, if he does not give orders in regard to their disposal.

Some years ago some very good friends of ours—Christian people too, if I am correct—received something they did not order. Instead of waiting to hear from us they made haste to send the goods back to us by express. Now, it happened that these goods were the product of a manufacturer who agrees to make good every imperfection in regard to them; and his instructions are that every thing shall be shipped back to the factory. Our customer, without waiting to be informed of this, sent them back to us with heavy charges, when they could have been sent more cheaply to the factory where they were made. We had to pay the express charges on receipt of the goods, and then they had to be reshipped to the factory. I was provoked, and wrote him that we should have to ask him to pay the expense of his folly in expressing them to us without any instructions from us to do so. It was the old story—because of the loss of a small amount of money I pulled up the wheat with the tares. He became angry, and said that if such a letter as that was according to my ideas of Christianity, he wanted no further deal with A. I. Root, and never wanted to read GLEANINGS any more. I wrote him, explaining matters; but he was soured, and has never traded with us since (several years have passed), until I saw a small order from him during the rush of the past season. How glad I was to see the old familiar signature! Friend —, if this meets your eye, please forgive me for my hasty letter. I should have remembered that you had been for many long years a friend of ours, and a friend of GLEANINGS; and if you were hasty it was my duty to have reminded you of it in gentle terms, at least before writing harshly.

Most of you can recall instances where those who have been excellent friends for years have had trouble over some trifling matter, and, for some unaccountable reason, former friendly terms have never been renewed. I have seen people quarrel in a good-natured way as to who should be *permitted* to bear the expense of some little sum. Each one held the other in such friendly esteem that it became a privilege to pay 25 cents, or even a dollar or more, to show his friendship and good will. This state of affairs exists because the two parties have unlimited *faith* and *confidence* in each other. You, perhaps, have friends whom you feel so sure are the very *soul* of honor that you would entrust them with almost any amount, without even a thought of anxiety. You have *faith* in such a one. This kind of faith is beautiful to behold, and I am sure it would be better if there were more of it. When the two are brothers in *Christ Jesus*, such confidence and perfect trust are still more beautiful to behold. It is one of the things in life worth living for. Well, now, such a faith and such a trust may be upset and demolished, and ruthlessly torn to shreds by just this thing I have been talking about to-day. Even such people as the ones I have described, who are the soul of honor, are still human, and have their imperfections. As a faithful friend it is your duty, no doubt, to labor with them in regard to their faults and failings, and they will think all the more of you for it, providing you do it with a careful and loving hand. I remember one such friend now; and the very thing that makes him exceedingly near and dear is because he talks to me *plainly*. He says to me things that I would hardly dare to say to anybody else, and that perhaps nobody else would be plain enough to say to me. But he says them with such exceeding kindness that I never feel vexed toward him. Now, suppose he should some time, when vexed, or sorely tried with me (or perhaps with somebody else), forget himself so far as to speak to me in anger. Even if he did, I hope and pray that God would give me grace to remember the years when he has given me only sympathy and kindness and gentleness. It wants a Christian spirit on both sides. We ought to be ready and willing to *bear* with our friends, even if they do forget themselves; and they on their part ought to be very careful about *forgetting*. Every Christian should be prepared to do *more* than his part both ways. He should do *more* than his share of forbearing, and he should do *more* than his share in forgiving. In this way these misunderstandings, and words that hurt and sting for years afterward, may be avoided. In this same line let us be *slow* to think evil. I told the friend who expressed the goods back to me that we should have to ask him to pay the expense of what he had done without orders. Under other circumstances I would have paid the amount twice over rather than appear ungentlemanly to one whom I had known so long, or rather than to appear *small* in deal. A dear friend of mine, who is not a Christian man, once saw a storekeeper and customer using hard words ove



a matter of 25 cents. He commenced to reprove them, when each party began to tell his story. He interrupted them something like this:

"But, my friend, the amount in question is only 25 cents."

One of the two asked him if he would be willing to be *beat* out of 25 cents. He replied, "Why, I would lose 25 cents *any time* rather than to use hard words, and talk to each other as you have been talking."

They were both silenced, and hung their heads in shame. The two who were quarreling were Christians. The man who said he would give 25 cents any time rather than have a "wrangle," was not a Christian. I often think of his words, and they have done me good. Let us look out for our rights, and in a good-natured way defend ourselves, even in small matters. But, dear brethren, do we not often make a great ado over something comparatively small and unimportant? Sometimes I get hold of letters written by the clerks, where the circumstances are aggravating. Sometimes I say, "Look here, my friend, all you say is no doubt true; but will it not be a great deal better to cross out this sentence, and that, and that? The letter will be just as well without it, and I know by experience that it will save hard feelings. Let us *never* stir somebody up needlessly. Let us not say severe things, even though they may be true, unless we are certain that some good is going to come from them. If it will be the means of leading this poor friend to *Christ Jesus*, by all means *let it go*; if not, strike out these passages, and have the letter written over again." Remember the wheat that may be rooted up and destroyed when we undertake with ruthless hand, and without due thought and proper care, to pluck out the tares.

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## EDITORIAL.

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He that is soon angry dealeth foolishly; and a man of wicked devices is hated.—PROV. 14: 17.

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### S. W. MORRISON IN COLORADO.

FRIEND MORRISON desires us to state that he is now located in Colorado Springs, whither he has removed on account of his wife's health. He also says he is out of the queen-rearing business.

### GARDENING FOR AUGUST.

If you have good ground, well enriched, worked up fine, there are several crops that may be put in now with profit. Eclipse beets; celery, if you have good strong plants; Grand Rapids lettuce, but the plants would be better than the seeds if you can get them; Egyptian onions; Early Frame and Chinese Rose Winter radish; and purple-top turnip. The latter may be somewhat doubtful; but with plenty of rain they will doubtless make a nice size for table use. Last, but by no means least, winter spinach. Last fall we sold bushels and bushels of spinach at from 5 to 10 cts. per lb., and didn't have enough. Few if any one in our community had used spinach until we introduced it, and now it is quite a staple article. It will probably take a full acre to supply our demand during the coming fall,

winter, and spring. If sown now it will get to be large and stocky, well prepared to stand the winter; yet there will be no danger of its starting to seed until in the spring. And, by the way, spinach is an excellent feed for poultry. They will feed on it all winter, as you may find to your sorrow, if you don't have your patch far enough away from their range. We can furnish the best American Savoy or Bloomsdale seed at 5 cts. per oz., or 30 cts. per lb.; 5 lbs. or more, 25 cts. per lb. It needs about 10 lbs. per acre. We sow it with a common wheat-drill, using phosphate, just as we do for wheat. Southern Prize turnip may be sown this month or next.

### THE STRAWBERRY-PLANTS WE SELL, AND THE WAY WE RAISE THEM.

THE demand for the four kinds of strawberries we offer has been beyond any thing heretofore known; but so far each order has been filled by return mail. Perhaps you would like to know how we raise the plants. The original plants were set out just about a year ago. This season, just before the runners began to set, the ground was harrowed between the rows until very fine. Just at this time our large compost-heap had to be removed on account of our new building. In order to avoid handling the stuff twice, I told the boys we would put it all between the strawberries. Then we harrowed the ground again to work in the manure. After that, about two inches of ashes were spread over the surface, and this was again thoroughly raked into the soil. Then the boys went to work and spread the runners out so as to cover the ground, putting a lump of dirt (or manure if they could get hold of it) on every runner. As soon as they were rooted sufficiently to fill orders, we went through, took all that were rooted enough, pulled the others up, and swung them around in order that we might give the ground *another* tremendous harrowing. Then the boys went through again, placing the runners that had been pulled up, as before. It was a great amount of work; but had we not done it we should never have been able to meet the tremendous demand our friends are making on us for plants. The Gandies and Haverlands seemed to catch hold of the idea at the same time their roots caught hold of the manure and ashes; and, oh my! how they have just put in the time and made roots and runners! About the middle of July some of these first plants were taken up with the transplanting-tubes, and moved to a new plantation, and some of these young plants in the new plantation, in just four weeks have now four or five strong plants of their own. All the plants have been grown so far without irrigation, as sufficient harrowing has been made to take the place of it; but unless it rains very soon, the windmill will have to be called in to *help* fill orders for plants. Please remember that both Bubach and Haverland are pistillate varieties, and must have a row of Jessies, or some other staminate variety, near them.

### ALFALFA HONEY.

WE make the following extract from the *Lakin Index*, published at Lakin, Kansas:

How doth the little busy bee improve each shining hour, and maketh honey every day from the sweet alfalfa flower! Farmer John Troutman, being the pioneer "bee-man" of Kearney County, drove into town on Saturday last, and disposed of a nice lot of that fine-haired luxury called comb honey, retailing the delicate golden sweet at 15 cents

per pound. He did not wait for customers, but his stock was eagerly taken. Our eastern friends may talk about their basswood and alsike-clover honey, but the Western Kansas man, with his fields of constantly blooming alfalfa, can exclaim, "Eureka!" and down all competitors with a marketable product of the industrious bee, made from the alfalfa bloom.

It is true, that alfalfa honey is destined to take the front rank. It has a most delicate and beautiful flavor, and all who taste it are quite willing to acknowledge that it has a little the finest flavor of any honey they ever tasted. One peculiarity of it is, it leaves no burning sensation to sensitive throats, of which some people complain.

#### JUDGING A QUEEN BY HER LOOKS.

WE had supposed that the day is passed when any one would undertake to decide by a queen's looks whether she produces pure bees—whether she was imported or not, etc. But, twice this season we have had customers who claimed and presumed to call a queen not what she was represented to be, simply from her looks, after an exhausting trip through the mails. One man says he showed her to all the best judges in his neighborhood, and they all pronounced her to be a hybrid. In the other case, our customer had received an imported queen, which, after a while, failed to lay. On being informed of this we at once sent him another best imported—in fact, one of the best queens we had in our apiary. Without introducing her at all, he looked at her, then carried her to a friend of his who was presumed to be a judge, and they together looked at her, and decided that she was just like the old one, because she *looked* like her; whereupon these two wise friends mailed her away to Medina again. We are glad to say that she came through all right. We do not propose to take any more risks in trying to satisfy such unreasonable people. Now, please let us have it understood, that, if you are going to judge of a queen by her looks, you had better not send to us. Our queens are to be judged by the workers they produce, and the work that these workers do. Of course, we like to have a good-sized queen; and if she is light in color, we are well aware that it goes a good way with some people. Very few queens, after a long trip through the mails, look very bright or large. When the queen is received, if there is any life in her at all, give her a chance, and do not complain until there is something to complain of.

*Moral.*—When anybody claims to be so wise as to be able to tell what a queen is worth, simply from her looks, set him down either as very ignorant in bee culture or very dishonest.

## SPECIAL NOTICES.

#### COMB AND EXTRACTED HONEY FROM ARIZONA.

We have just received from the Bee-keepers' Association of Maricopa Co., Arizona, a carload of very fine extracted and comb honey. There is only about a ton of comb and about 16 tons of extracted. It is principally alfalfa, and of very fine flavor and color. The comb honey is in 24 and 48 lb. cases, with no glass, and the price is 17 cts. per lb. In lots of 5 cases or more, 16 cts. The extracted honey is all in 60-lb. cans, 2 cans in a case; the price is 10 cts. per lb. by the case of one or two cans; 3 cases or more, 9 cts. per lb. Those wanting 1000 lbs. or more will please write us for prices. From the number of inquiries for comb honey that we have, you will have to speak quick if you expect to get any of his.

We are negotiating for a carload of comb honey to arrive from Reno, Nev., between the middle and last of September. This is to come from W. K. Ball, from whom we received some alfalfa of last year's crop several months ago, which is the mildest, most palatable honey we ever tasted. The honey offered above is very much like it.

#### SOME STATISTICS IN REGARD TO BUSINESS AT THE HOME OF THE HONEY-BEES.

It may be of interest to many of our readers to learn something of the extent of the bee-keepers' supply business as carried on at the Home of the Honey-Bees the past year. As we have had to collect statistics for the census bureau, we give you some of the results of our investigations. We give figures in round numbers, within a very few of the actual count, and more easily remembered. The whole number of hives of the five styles we make was a little over 36,000, of which we sold 120,000 Dovel-tailed, 10,000 Simplicity, 3000 Portico, 1700 two-story chaff, and 1450 one-story chaff. The previous year, when the Dovel-tailed hive was introduced, about March, it reached a sale of 4200, and 12,000 Simplicity were sold. This shows that the Dovel-tailed hive has taken its place rapidly at the head of the list, and made the whole number of Simplicity diminish when every thing else has increased.

For convenience we will arrange the statistics in the form of a table, comparing a few items with the number produced a year ago, which was our largest year until the present. By this you will see the great increase, and the reason for our being (for a time) so behind on orders, and having to run day and night to fill them.

Quantity produced and sold from Sept. 1888 to Sept. 1889.	Sept. '89, Aug. '90.
Dovel-tailed hives .....	4 200 20,000
Simplicity hives .....	12,000 10,000
Portico hives .....	2,000 3,000
Two story Chaff hives .....	1,100 1,700
One-story Chaff hives .....	900 1,450
Brood frames, Simp. size .....	360,000 500,000
One-piece sections .....	5,000,000 6,500,000
Weight of freight shipments ..	1,350,000 lbs 2,250,000

The number of shipments by freight for a year is about 7000, and by express 3000. The average number of hands employed for a year has been 160, and the amount paid them, \$40,000. We have turned out 20,000 Clark's smokers in a year; and 75 casks, of 600 lbs. each, of sheet zinc, has been made into queen-excluding metal, making about 80,000 sq. ft.

Of the six and a half million sections sold, we bought from other makers 1,310,000, and would have bought many more if we could have got them, rather than send out many made from dark and poorly seasoned lumber that we had to send in order to fill orders at all.

#### PREPARATIONS FOR THE FUTURE.

We have now well under way another two story brick building, 37x100 ft., to be used on first floor for making comb foundation and for a machine-shop, and on the upper floor for tin-shop, japanning room, and making smokers. This will give us the whole of both floors in the building 44x96, erected in 1886, for wood-working machinery. As our 90 H. P. engine is inadequate to run so much machinery we are putting on a larger cylinder to increase its power to about 150 H. P. Our Mr. Warner has been to Michigan and secured a shipload of pine lumber from which we expect to make a better quality of hives than some we had to send out the past few months. We are trying to secure sufficient basswood lumber so that we may not be caught again as we were last spring with the season before us, and not half enough dry lumber. We are beginning already to make up a stock of goods for next season's trade, and as usual we will from this date allow a

#### DISCOUNT FOR GOODS FOR NEXT SEASON'S USE.

The terms are just the same as they were a year ago. You can refer to back numbers of GLEANINGS, or old discount sheet; or if you write we will mail you terms. The discount will be 5 per cent up to Nov. 1, when it will drop 1 per cent each month till it has all vanished. The discount is allowed only on goods of our manufacture, bought now for next season's use, and does not apply to honey-packages, counter-goods, and the like, that you will use this fall, and which are already sold at close prices.



# GLEANINGS IN BEE CULTURE.

## Books for Bee-Keepers and Others.

Any of these books on which postage is not given will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them for sale, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a \*; those I especially approve, \*\*; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §. The bee-books are all good.

BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.	
8   Bible, <i>good print</i> , neatly bound.....	25
10   Bunyan's <i>Pilgrim's Progress</i> **.....	35
6   First Steps for Little Feet. By the author of the Story of the Bible. A better book for young children can not be found in the whole round of literature, and at the same time there can hardly be found a more attractive book. Beautifully bound, and fully illustrated. Price 50c. Two copies will be sold for 75 cents. Postage six cents each.	
5   Harmony of the Gospels.....	35
3   John Ploughman's Talks and Pictures, by Rev. C. H. Spurgeon*.....	10
1   Gospel Hymns, consolidated Nos. 1, 2, 3 and 4, words only, cloth, 10c; paper.....	05
2   Same, board covers.....	20
5   Same, words and music, small type, board covers.....	45
10   Same, words and music, board covers.....	75
3   New Testament in pretty flexible covers.....	05
5   New Testament, new version, paper cover.....	10
5   Robinson Crusoe, paper cover.....	20
4   Stepping Heavenward**.....	18
15   Story of the Bible**.....	1 00
A large book of 700 pages, and 274 illustrations. Will be read by almost every child.	
5   The Christian's Secret of a Happy Life**.....	25
8   Same in cloth binding.....	50
1   "The Life of Trust," by Geo. Muller**.....	1 25
1   Ten Nights in a Bar Room, by T. S. Arthur*.....	03

BOOKS ESPECIALLY FOR BEE-KEEPERS.  
As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each.

[Price without postage.]	
15   A B C of Bee Culture Cloth.....	1 10
5   A Year Among the Bees, by C. C. Miller.....	45
14   Bees and Bee-keeping, by Frank Cheshire, England, Vol. I, §.....	2 36
21   Same, Vol. II, §.....	2 79
or, \$5.25 for the two, postpaid.	
Bees and Honey, by T. G. Newman.....	1 00
15   Cook's New Manual Cloth.....	1 35
5   Doolittle on Queen Rearing.....	95
2   Dzierzon Theory.....	10
1   Foul Brood; Its management and cure; D. A. Jones.....	09
1   Honey as Food and Medicine.....	5
10   Langstroth on the Hive and Honey-Bee†.....	1 40
15   Langstroth Revised, by Ch. Dadant & Son.....	1 85
10   Quinby's New Bee-Keeping.....	1 40
10   Queen-Rearing, by H. Alley.....	1 00
4   Success in Bee Culture, by James Heddon.....	48
The Production of Comb Honey, by W. Z. Hutchinson.....	
	25

The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England. 1 75  
British Bee-keeper's Guide - Book, by Thos. Wm. Cowan, Esq., England. 40  
3 | Merrybanks and His Neighbor, by A. I. Root 25

### MISCELLANEOUS HAND-BOOKS.

5   A B C of Carp Culture,*.....	35
3   A B C of Potato Culture, Terry**.....	35
This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with friend Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations.	
5   An Egg-Farm, Stoddard**.....	45
Barn Plans and Out-Buildings*.....	1 50
Cranberry Culture, White's.....	1 25
Canary Birds; paper, 50c; cloth*.....	75
Draining for Profit and Health, Warriner.....	1 50
5   Eclectic Manual of Phonography; Pitman's System; cloth.....	50
6   Fuller's Practical Forestry†.....	1 40
10   Fuller's Grape Culturist*.....	1 40

10 | Farming For Boys\*..... 1 15  
This is one of Joseph Harris' happiest productions, and it seems to me that it ought to make farm-life fascinating to any boy who has any sort of taste for gardening.

7 | Farm, Gardening, and Seed-Growing\*\*..... 90  
This is by Francis Brill, the veteran seed-grower, and is the only book on gardening that I am aware of that tells how market-gardeners and seed-growers raise and harvest their own seeds. It has 166 pages.

10 | Gardening for Pleasure, Henderson\*..... 1 40  
While "Gardening for Profit" is written with a view of making gardening pay, it touches a good deal on the pleasure part; and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. I think most of you will need this if you get "Gardening for Profit." This work has 246 pages and 134 illustrations.

12 | Gardening for Profit, new edition\*\*..... 1 85  
This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts.

Gardening for Young and Old, Harris\*\*..... 1 25  
This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as to old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of this book. It has 187 pages and 46 engravings.

10 | Garden and Farm Topics, Henderson\*\*..... 75  
Gray's School and Field Book of Botany..... 1 80  
5 | Gregory on Cabbages; paper\*..... 25  
5 | Gregory on Squashes; paper\*..... 25  
5 | Gregory on Onions; paper\*..... 25

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

10 | Household Conveniences..... 1 40  
2 | How to Propagate and Grow Fruit, Green\*..... 25  
5 | How to Make Candy\*\*..... 45  
2 | Injurious Insects, Cook..... 25  
10 | Irrigation for the Farm, Garden, and Orchard, Stewart\*..... 1 49

This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present day. The book has 274 pages and 142 cuts.

10 | Money in The Garden, Quinn\*..... 1 40  
3 | Maple Sugar and the Sugar-Bush,\*\*..... 35  
By Prof. A. J. Cook. This was written in the spring of 1887, at my request. As the author has, perhaps, one of the finest sugar-camps in the United States, as well as being an enthusiastic lover of all farm industries, he is better fitted, perhaps, to handle the subject than any other man. The book is written in Prof. Cook's happy style, combining wholesome moral lessons with the latest and best method of managing to get the finest sugar and maple syrup, with the least possible expenditure of cash and labor. Everybody who makes sugar or molasses wants the sugar-book. It has 43 pages and 35 cuts.

1 | Poultry for Pleasure and Profit\*\*..... 10  
11 | Practical Floriculture, Henderson\*..... 1 35  
Peach Culture, Fulton's..... 1 50  
10 | Profits in Poultry\*..... 90  
2 | Silk and the Silkworm..... 10  
10 | Small-Fruit Culturist, Fuller\*..... 1 40  
10 | Success in Market-Gardening\*..... 90

This is a new book by a real, live, enterprising, successful market-gardener who lives in Arlington, a suburb of Boston, Mass. Friend Rawson has been one of the foremost to make irrigation a practical success, and he now irrigates his grounds by means of a windmill and steam-engine whenever a drought threatens to injure the crops. The book has 208 pages, and is nicely illustrated with 110 engravings.

The Silo and Ensilage, by Prof. Cook, new edition, fully illustrated..... 20  
5 | Strawberry Culturist, Fuller\*..... 20

Talks on Manures\*..... 1 75  
This book, by Joseph Harris is, perhaps, the most comprehensive one we have on the subject, and the whole matter is considered by an able writer. It contains 366 pages.

2 | The Carpenter's Steel Square and its Uses; Hodgson; Abridged..... 15  
10 | The New Agriculture, or the Waters Led Captive..... 75

2 | Treatise on the Horse and his Diseases..... 10  
3 | Winter Care of Horses and Cattle..... 40  
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